SCOPE OF WORK

The work under this contract consists of furnishing all labor, materials, permits, inspection fees, and supplementary services required for the complete installation of environmental heat pumps, environmental ducting, environmental diffusers, restroom exhaust ducting and intakes, exhaust fans, and make-up air supply fans as shown on these documents. Installation shall include any additional work as may be required by any special jobsite conditions or coordination with other trades.

MATERIALS

All materials furnished under this contract shall be new, free from defects, and shall conform with the standards of the UL or FM, where such standards have been established, and shall be so labeled. Incidental materials not specifically specified herein that are required to complete the installation shall be of the highest quality for the use intended.

Manufacturer's names and catalog numbers are used to designate the material or equipment as a means of establishing grade, quality, and performance. Substitutions will be considered with a submittal of the proposed substitution, review, and the permission of the owner.

INSTALLATION

The entire installation shall be made in a neat, workmanship-like, finished, and safe matter. Conceal all refrigerant, condenser, and water piping in finished areas, unless otherwise noted. Dielectric protection shall be provided at all dissimilar metal junctions or contact points. Roof and wall penetrations shall be properly sealed against weather penetration.

Installation documentation and manuals for all equipment provided and installed shall be provided and attached to the air handler units in a transparent pocket, or provided as a packaged document set, for the owner or inspector to review on demand.

Provide complete copies of all test and balance reports attached to the air handler unit, or provided as a packaged document set, for the owner or inspector to review on demand.

CODES, PERMITS, FEES, INSPECTIONS, RULES, AND REGULATIONS

Installers / contractors shall comply with all requirements of local, county, state, and federal codes, ordinances, and regulations. obtain and pay for all permits, inspections, etc., where required.

MANDATORY MEASURES

- 1. HEATING AND COOLING EQUIPMENT SHALL MEET THE EFFICIENCY REQUIREMENTS OF TITLE-24 SECTION 110.1 OR SECTION 110.2.
- 2. EACH SYSTEM NOT CONTROLLED BY A BUILDING ENERGY MANAGEMENT SYSTEM SHALL HAVE A SETBACK THERMOSTAT IN COMPLIANCE WITH TITLE-24 SECTION 120.2.
 - WHEN TO CONTROL HEATING, THE THERMOSTAT SHALL BE CAPABLE OF BEING SET DOWN TO 55°F OR LOWER.
 - WHEN TO CONTROL COOLING, THE THERMOSTAT SHALL BE CAPABLE OF BEING SET UP TO 85°F OR HIGHER.
 - WHEN USED TO CONTROL BOTH HEATING AND COOLING, THE THERMOSTAT SHALL PROVIDE A "DEADBAND" OF AT LEAST 5°F WITHIN WHICH NO HEATING OR COOLING ENERGY IS SUPPLIED. VENTILATION FANS SHALL CONTINUE TO RUN AS PROGRAMMED.
 - WHEN NOT IN USE THE HEATING/COOLING EQUIPMENT SHALL BE SHUT DOWN.
- 3. ALL THERMOSTATS SHALL HAVE A CLOCK MECHANISM THAT ALLOWS THE OCCUPANT TO PROGRAM THE TEMPERATURE SETPOINTS FOR AT LEAST 4 PERIODS WITHIN EVERY 24 HOURS IN COMPLIANCE WITH TITLE-24 SECTION 120.2.

NOTE: HEAT PUMPS/AIR HANDLERS IN THIS PROJECT DO NOT USE SUPPLEMENTAL ELECTRIC HEATING. NO ADDITIONAL CONTROLS ARE REQUIRED FOR THIS FUNCTION.

NOTE: SPLIT SYSTEM HEAT PUMPS/AIR HANDLERS USED IN THIS PROJECT DO NOT USE ECONOMIZERS. NO ADDITIONAL CONTROLS ARE REQUIRED FOR THIS FUNCTION.

- 4. VENTILATION (OUTSIDE AIR) FOR OCCUPANTS SHALL BE PROVIDED AT A MINIMUM OF 15CFM PER PERSON CALCULATED BY THE LARGEST OF:
 - THE EXPECTED OCCUPANCY OF EMPLOYEES/EQUIPMENT OPERATORS OR 50% OF MAXIMUM OCCUPANT LOAD ASSUMED FOR EGRESS PURPOSES.
 - 0.15 CFM/sf OF CONDITIONED AREA.
 - AS RECOMMENDED PER ASHRAE STANDARD 170-2013, VENTILATION OF HEALTHCARE FACILITIES
- 5. AIR HANDLER FANS SHALL BE PROGRAMMED TO START 1 HOUR PRIOR TO SCHEDULED OCCUPANCY AND **RUN CONTINUOUSLY WHILE OCCUPIED**.
- DAMPERS SHALL BE INSTALLED AT ALL DIFFUSERS AND INLETS, INCLUDING OUTSIDE VENTILATION AIR CONNECTIONS TO AIR HANDLERS, TO CONTROL THE AIR FLOW AS SPECIFIED IN THIS DOCUMENT.
- 7. ENVIRONMENTAL HEATING/COOLING DUCTS SHALL BE INSULATED TO A MINIMUM OF R-6, AS REQUIRED FOR TITLE-24 CLIMATE ZONE 8 (THIS LOCATION). DUCT INSULATION SHALL MEET ANY REQUIREMENTS FOR ADDITIONAL INSULATION IF REQUIRED BY LOCAL CODES.

Materials

All materials furnished under this contract shall be new, free from defects, and shall conform with the standards of the UL and FM where such standards have been established, and shall be so labeled. Incidental materials not specified herein that are required to complete the work shall be of first (highest) quality for the use intended. Manufacturer's names and catalog numbers are used to designate the item of material or equipment as a means of establishing grade and quality. Manufacturers of a similar quality will be considered upon submittal by the contractor and may be substituted with written approval.

Indirect Waste Condensate Drains, Non-condensing equipment, Pressure Relief Valve Drains:

Type L copper with wrought copper fittings. Use lead-free 95/5 solder for all field joints

Indirect Waste Condensate Drains - Condensing Appliances/Equipment Schedule 40 PVC pipe with solvent weld fittings, thread/socket adapters at point of connection to equipment.

Alternate: "Tygon 2375" Ultra Chemical Resistant or PTFE flexible tubing with molded PTFE barbed or compression fittings to match tubing size.

Insulation

נוט

Filters [TR

NOTE: THIS IS AN OSHPD-3 MEDICAL OFFICE

MECHANICAL EQUIPMENT

Environmental HVAC - SEE TABLE M-1.1

Thermostat

Honeywell [TBD]Low Voltage Programmable Thermostat with auto-adjust for daylight savings time, 7-day / 4-period program retention in memory in case of power outage, filter change reminder, and large LCD display for single stage heating/cooling with heat pump.

Provide and install twisted pair wire to connect thermostat to rooftop heat pump units.

Provide insulated base for exterior wall mounting (where so required) and locking thermostat cover when placed in public access areas.

Exhaust Fan - Roof Mounted

Greenheck Model G-098 Centrifugal Roof Downblast Direct Drive Fan 208V/1Ø VG-1/4 HP Vari-Green motor, rated for continuous duty at 655 CFM @ 0.30 ESP.

Provide complete with Greenheck model 12"x12" WD-100 horizontal mount exhaust damper (air flow up) with aluminum blades and vinyl blade seals.

Provide Greenheck 19"x19" curb for seismic certification.

Intake Air Grilles

RETURN AIR - DROP CEILING AREAS

Titus Model PAR 24"x24" square face to match ceiling style (drop-in or tegular) with integral balance damper. Diffuser neck to match duct size specified on plan, provide square-to-round adapter to match duct size shown on plan.

RETURN AIR - HARD LID AREAS

Titus Model 350R 0° deflection return air grille with integral mounted balancing damper. Provide square-to-round adapter to transition to duct size shown on plan. Square dimension to match exhaust duct specified on plan.

SIDE WALL INTAKE

Titus Model 350RS 12"x18", standard #22 white finish, 3/4" blade spacing, with adjustable opposed blade damper, no filter.

EXHAUST - DROP CEILING AREAS

Titus Model PAR 24"x24" square face to match ceiling style (drop-in or tegular) with integral balance damper. Diffuser neck to match duct size specified on plan, provide square-to-round adapter to match duct size shown on plan.

EXHAUST - HARD LID AREAS

Titus Model 350R 35° deflection return air grille with integral mounted balancing damper. Provide square-to-round adapter to transition to duct size shown on plan.

Supply Diffusers

DROP CEILING / HARD LID

Titus Model PAS with round duct inlet and 24"X24" square face to match ceiling style (drop-in or tegular). Diffuser neck size to match supply duct. Provide in duct damper Titus AG-100 or D-100 as required by duct/diffuser interface and access required.

RESTROOM HARD LID / JANITOR ROOMS / EQUIPMENT ROOM
Titus Model 250 4-way throw steel frame surface mount diffuser.
Square dimension to match duct size. Provide separate in-duct damper
Titus AG-100 or D-100 as required by duct/diffuser interface and access
required.



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LENNOX, CA 90304

29-Mar-19 18-08003.01

Scope of Work and Specifications

Specifications

M-1.0

HEAT PUMP EQUIPMENT SPECIFICATIONS

Mark (HP-)	Mfg	Model	Total Cooling Capacity	Total Heating Capacity	Unit Weight	SEER	HSPF	Voltage	FLA	МОСР	Evap Fan CFM	Total ESP	Ent Air DB	Ent Air WB	Lvg Air DB	Lvg Air WB	Total Cooling Req	Sensible Cooling Req	Heating Req	Notes
1	Trane	4WCY4036C1000A	37000	33200	550	14.25	8.00	208/1P/60	26.2	40	1194	0.60	79.2	65.9	58.5	57.2	34600	29100	22200	Unit weight column includes curb, economizer, + 10% allowance for misc. hardware
2	Trane	4WCY4030C1000A	30000	27600	534	14.25	8.00	208/1P/60	19.2	30	1002	0.70	76.9	64.4	58.0	56.9	25500	22800	13300	
3	Trane	4WCY4036C1000A	37000	33200	550	14.25	8.00	208/1P/60	26.2	40	1194	0.60	78.9	66.3	59.6	58.4	33300	28100	20400	

HEAT PUMP EQUIPMENT NOTES

- 1. ALL UNITS CONFIGURED FOR HORIZONTAL SUPPLY/RETURN.
- 2. PROVIDE ROOFTOP PACKAGE UNITS WITH THE FOLLOWING OPTIONS:
- Micro-Metl CRBK-IMP2SFA-0801 STRUCTURALLY CALCULATED KNOCKDOWN CURB (EST WT 45 LBS)
- Micro-Metl ECC-IMP2SCA-DYZB ECONOMIZER WITH BAROMETRIC RELIEF (EST WT 83 LBS)
 17-1/2" x 21-1/4" BAROMETRIC RELIEF HOOD PER Micro-Metl INSTALLATION DRAWING.
- AUXILIARY RELAY (Micro-Metl 9901-5030)
- (4) WIRE LEADS (Micro-Metl 9901-0134)
- 3. PROVIDE AIR FILTER SET FOR EACH HEAT PUMP CONSISTING OF:
- (1) 20"x25"x2" MERV 8 INSIDE UNIT 30% EFF
- (1) 20"x25"x4" MERV 14 IN SUPPLY SIDE FILTER HOLDER 90% EFF (SEE PLAN VIEW/DETAIL) Mfg:

									Al	R BALANC	E SUMMARY							
Zone	Room #	Area (SF)	Clng Ht (ft)	Volume (ft3)	Occupancy	OSA/ Person	OSA/ sf	OSA by Occ	OSA by Area	OSA Req'd	Exhaust Req'd	Filter Reqmt	Supply CFM	ACH Req'd	ACH Specified	ACH OSA	HVAC System	Pressurization (Airflow Direction)
Check In Entryway	100	54	7.86	424	0	15	0.15	0	8	15	NR	30%	170	4	24.0	2.1	HP-1	Neutral/No requirement
Waiting 2	101	87	11.00	957	8	15	0.15	120	13	135	100	30% + 90%	310	4	19.4	8.5	HP-1	Negative (32.3% exhaust)
Lounge	110	135	8.17	1103	4	15	0.15	60	20	60	60	30%	210	4	11.4	3.3	HP-1	Negative (28.6% exhaust)
Staff Toilet 111	111	52	8.17	425	1	15	0.15	15		70	75	30%	75	10	10.6	9.9	HP-1	Neutral (100% exhaust)
Staff Toilet 112	112	54	8.17	441	1	15	0.15	15		75	75	30%	75	10	10.2	10.2	HP-1	Neutral (100% exhaust)
Office 1	115	94	8.17	768	2	15	0.15	30	14	30	NR	30%	95	4	7.4	2.3	HP-1	Neutral/No requirement
Office 2	117	94	8.17	768	2	15	0.15	30	14	30	NR	30%	95	4	7.4	2.3	HP-1	Neutral/No requirement
Open Office	119	165	7.86	1297	3	15	0.15	45	25	45	NR	30%	135	4	6.2	2.1	HP-1	Neutral/No requirement
Data Storage	122	42	7.86	330	1	15	0.15	15	6	15	NR	30%	35	4	6.4	2.7	HP-1	Neutral/No requirement
Ped Vitals & Nurse	102	98	11.00	1078	2	15	0.15	30	15	40	NR	30% + 90%	125	4	7.0	2.2	HP-2	Neutral/No requirement
Hallways - East	103	91	13.50	1229	0	15	0.15	0	14	14	NR	30% + 90%	125	4	6.1	2.0	HP-2	Neutral/No requirement
Lab	104	88	9.00	792	1	15	0.15	15	13	15	NR	30% + 90%	80	4	6.1	2.0	HP-2	Neutral/No requirement
Exam 1	105	88	9.00	792	2	15	0.15	30	13	30	NR	30% + 90%	125	4	9.5	2.3	HP-2	Neutral/No requirement
Exam 3	106	88	9.00	792	2	15	0.15	30	13	30	NR	30% + 90%	125	4	9.5	2.3	HP-2	Neutral/No requirement
Exam 4	107	88	9.00	792	2	15	0.15	30	13	30	NR	30% + 90%	125	4	9.5	2.3	HP-2	Neutral/No requirement
Waiting 3	109	102	9.75	995	6	15	0.15	90	15	90	100	30% + 90%	330	4	19.9	5.4	HP-2	Negative (30.3% exhaust)
Hallways - Core	103	160	12.25	1960	0	15	0.15	0	24	35	NR	30% + 90%	135	4	4.1	2.0	HP-3	Neutral/No requirement
Exam 6	108	88	9.00	792	2	15	0.15	30	13	30	NR	30% + 90%	75	4	5.7	2.3	HP-3	Neutral/No requirement
Clean	113	13	9.00	117	0	15	0.15	0	2	5	NR	30% + 90%	25	10	12.8	2.6	HP-3	Positive (100% Supply)
Soiled	114	40	9.00	360	1	15	0.15	15	6	60	75	30%	60	10	10.0	10.0	HP-3	Neutral (100% exhaust)
Exam 5	116	88	9.00	792	2	15	0.15	30	13	30	NR	30% + 90%	80	4	6.1	2.3	HP-3	Neutral/No requirement
Exam 2	118	88	9.00	792	2	15	0.15	30	13	30	NR	30% + 90%	80	4	6.1	2.3	HP-3	Neutral/No requirement
Patient Toilet 1	120	50	7.86	393	1	15	0.15	15		75	75	30% + 90%	75	10	11.5	11.5	HP-3	Neutral (100% exhaust)
Patient Toilet 2	121	50	7.86	393	1	15	0.15	15		75	75	30% + 90%	75	10	11.5	11.5	HP-3	Neutral (100% exhaust)
Check In	123	243	7.86	1910	5	15	0.15	75	36	81	NR	30% + 90%	195	4	6.1	2.5	HP-3	Neutral/No requirement
Check Out	123	94	7.86	739	3	15	0.15	45	14	45	NR	30% + 90%	85	4	6.9	3.7	HP-3	Neutral/No requirement
Housekeeping	124	15	7.86	118	1	15	0.15	15	2	20	20	30% + 90%	20	10	10.2	2.0	HP-3	Neutral (100% exhaust)
Hallways - West	N/A	227	12.25	2781	0	15	0.15	0	34	50	NR	30% + 90%	355	4	7.7	2.0	HP-3	Neutral/No requirement
Takali		2576								1200	CEE		2405					
Totals		2576								1260	655		3495					

AIR BALANCE NOTES

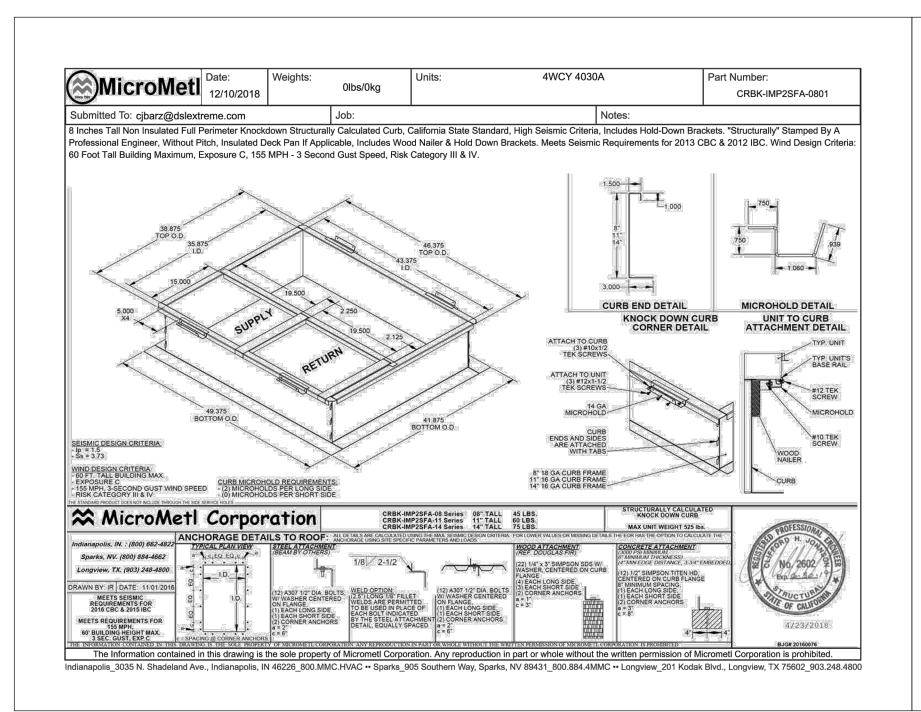
- 1. "Neutral Airflow" INDICATES (Return + Exhaust) = Supply OR Return = Supply
- 2. "Negative Airflow" INDICATES (Return + Exhaust) > Supply BY % SHOWN.
- 3. "Positive Airflow" INDICATES (0% Return) OR (Supply) > (Return + Exhaust) BY % SHOWN.

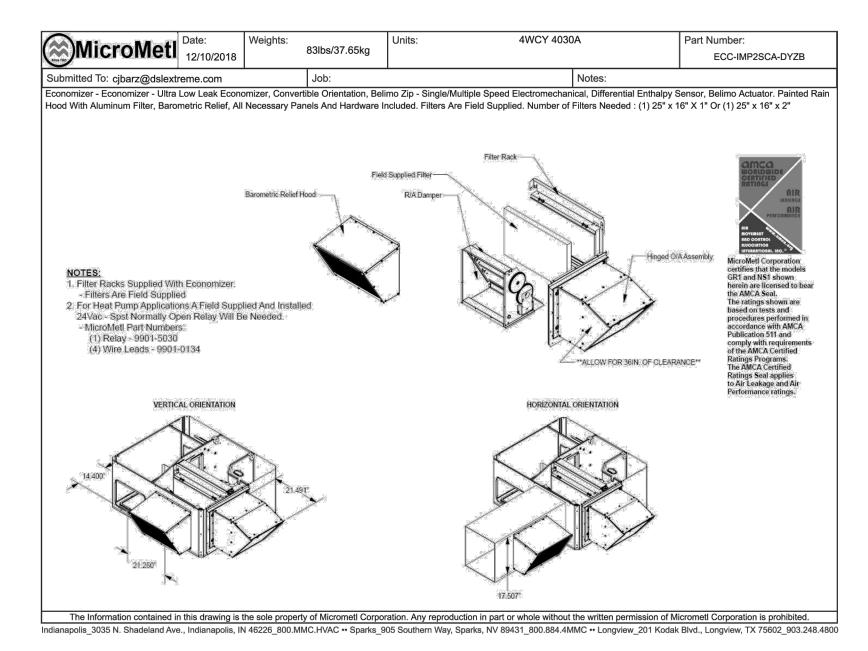
C.J. Barszcz & Associates Las Vegas, NV 89117 9030 W. Sahara Ave #172 702-240-7240 https://cjbarszczassoc.com Consulting Mechanical Engineers

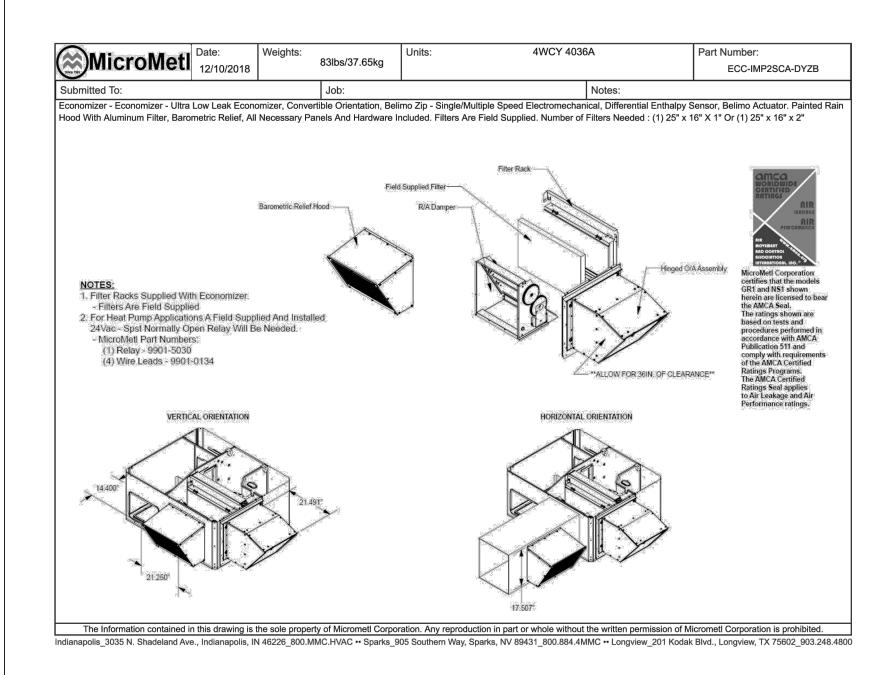
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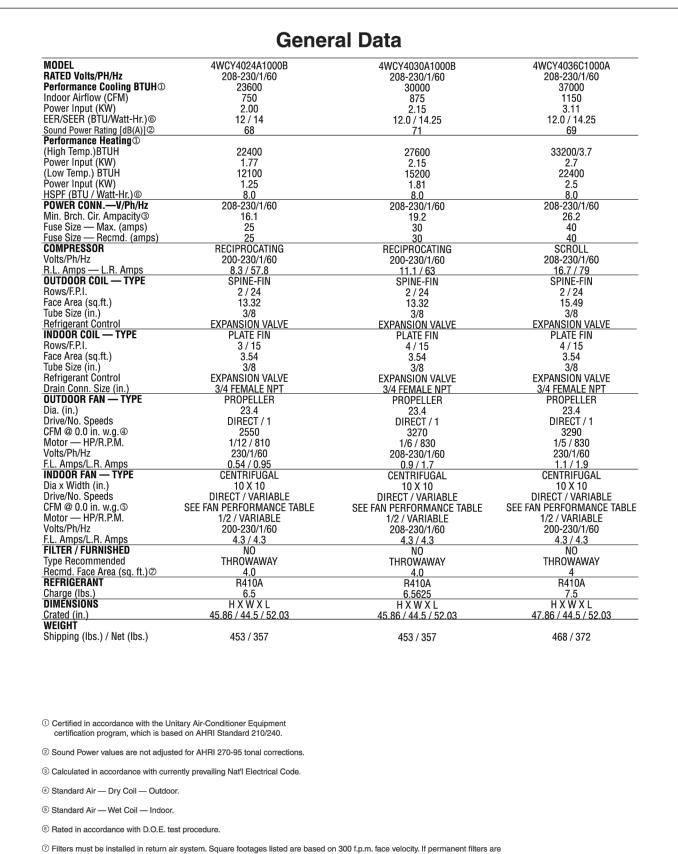
29-Mar-19 CJB

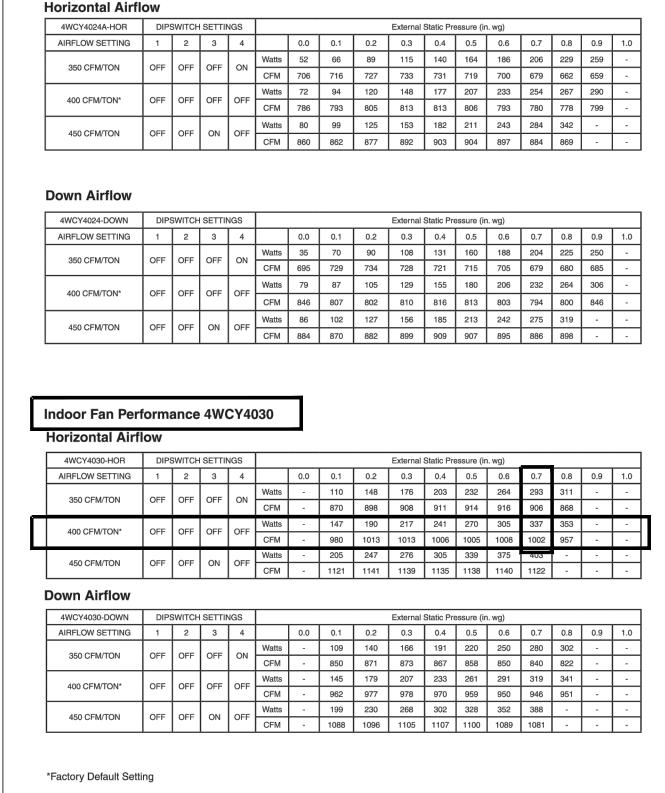
18-08003.01 Air Balance Specifications and Details





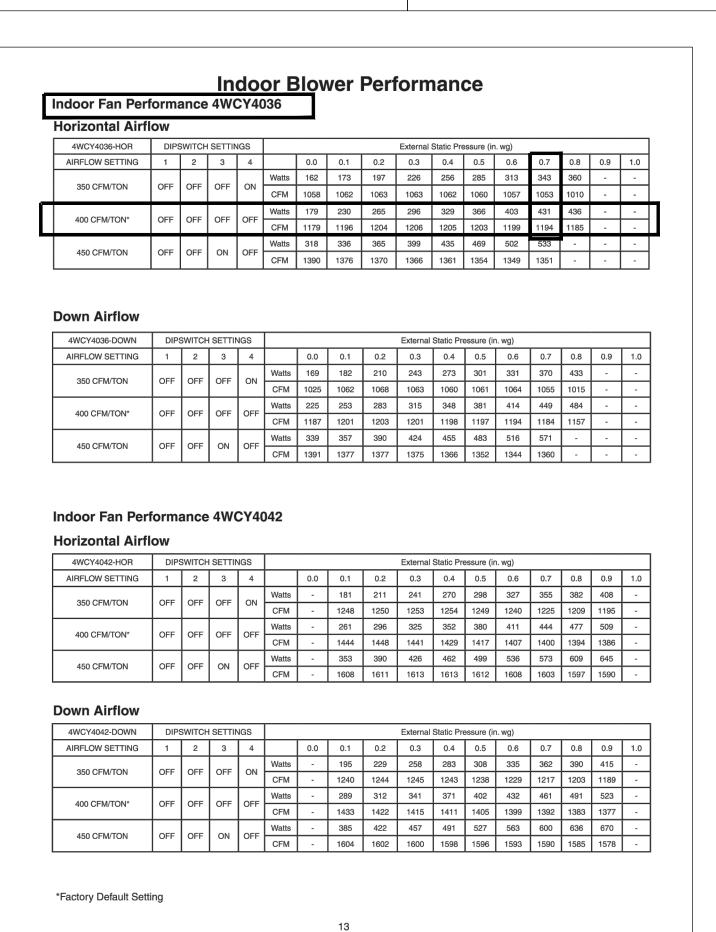






Indoor Blower Performance

Indoor Fan Performance 4WCY4024





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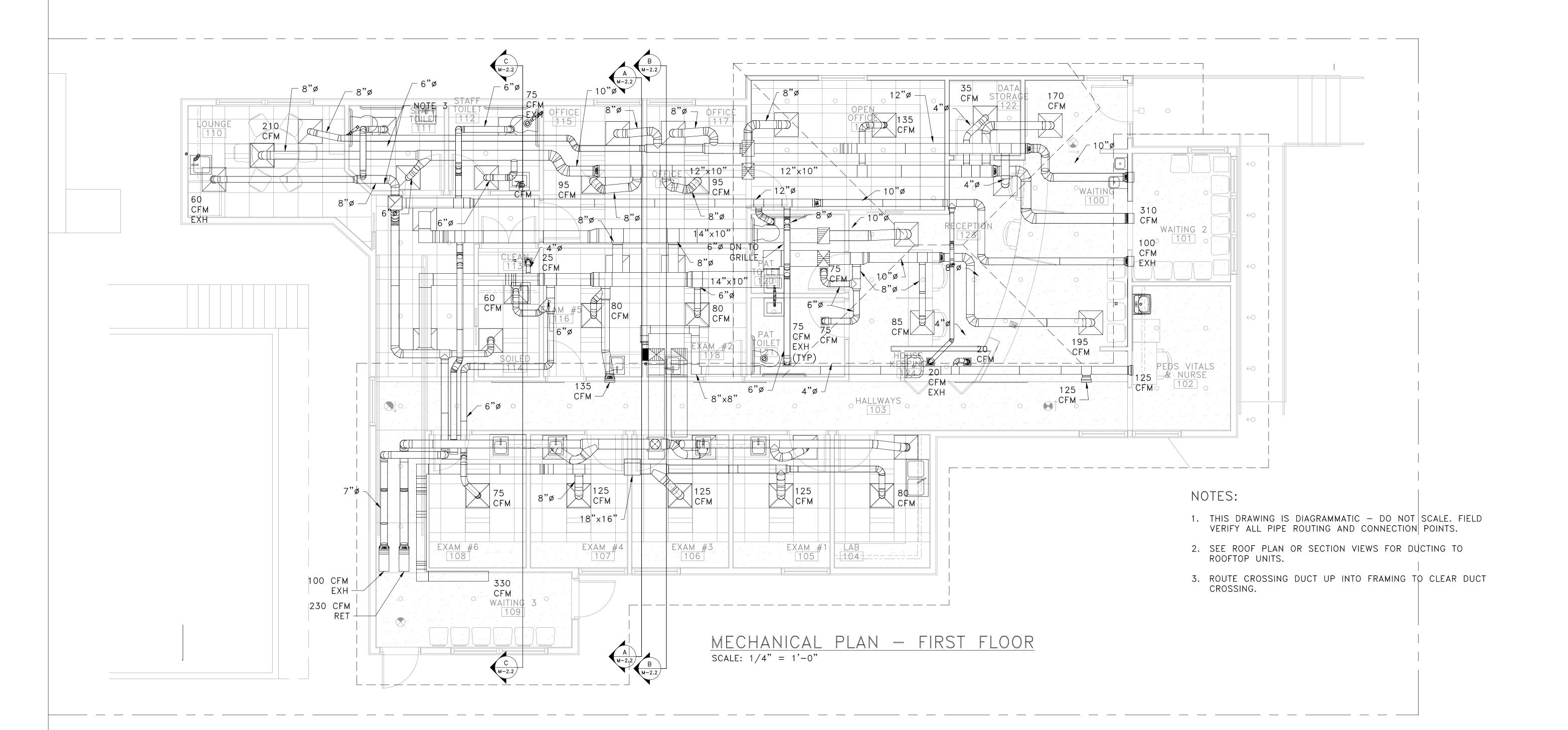
drawn by checked by project title							
remarks							

29-Mar-19 18-08003.01

Equipment Cut—Sheets

M-1_.2

0.00 | 0.50 | 1.00



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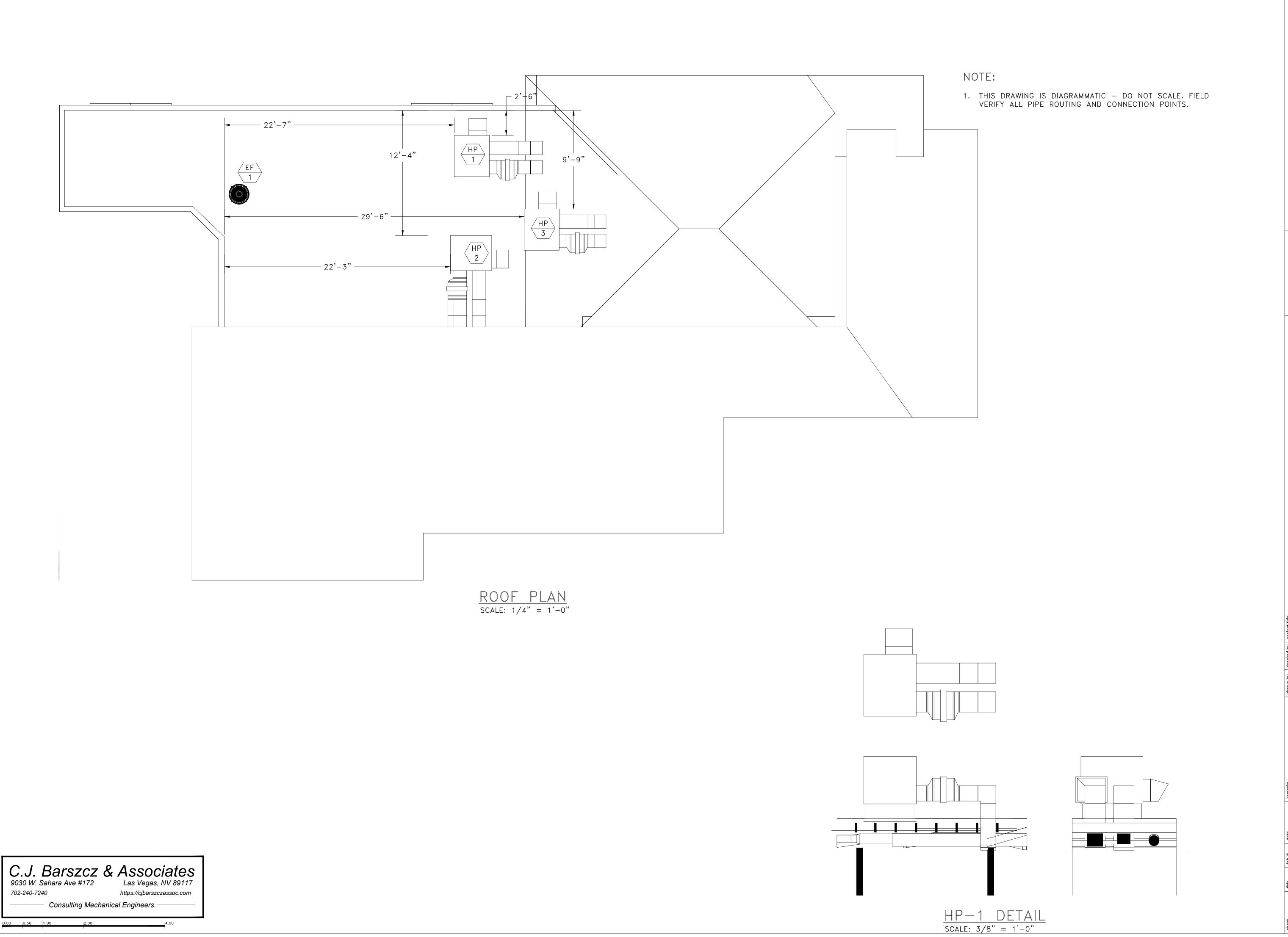
29-Mar-19 CJB 18-08003.01

MECHANICAL PLAN FIRST FLOOR

M-2.0

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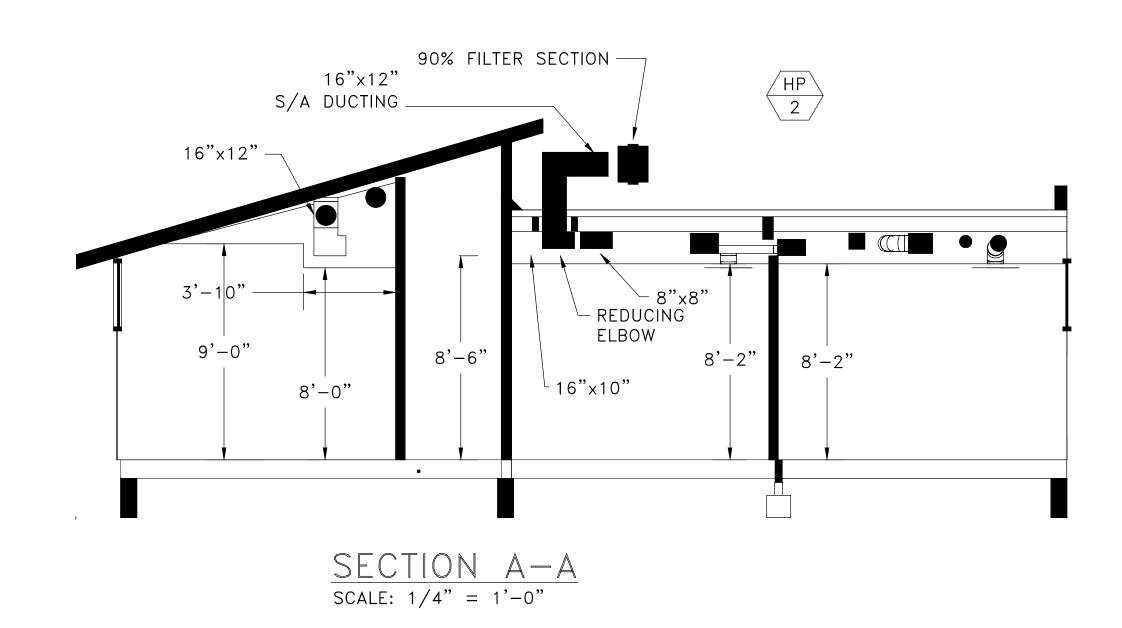
29-Mar-19 CJB

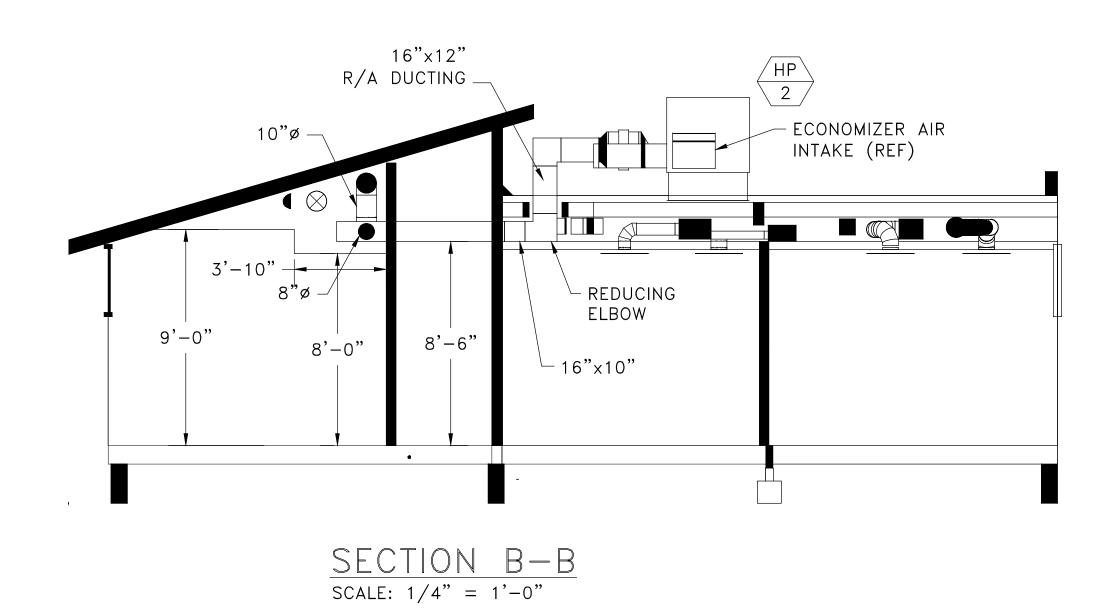
— 18-08003.01 MECHANICAL PLAN ROOF

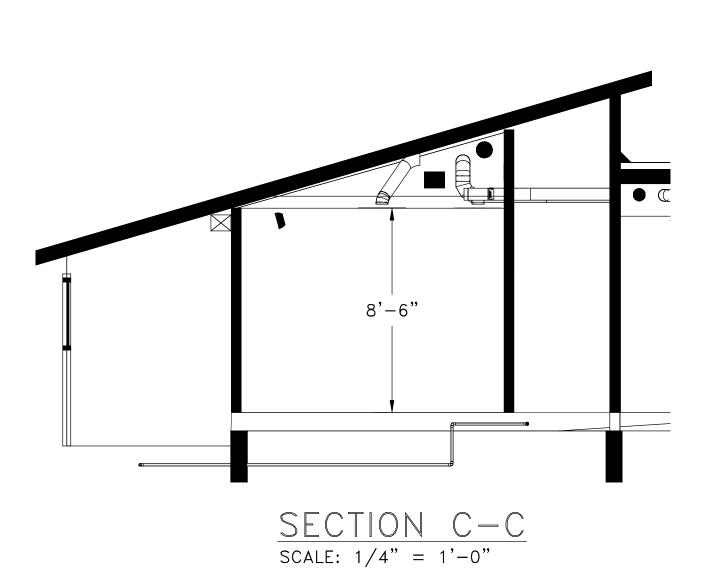
M-2.1

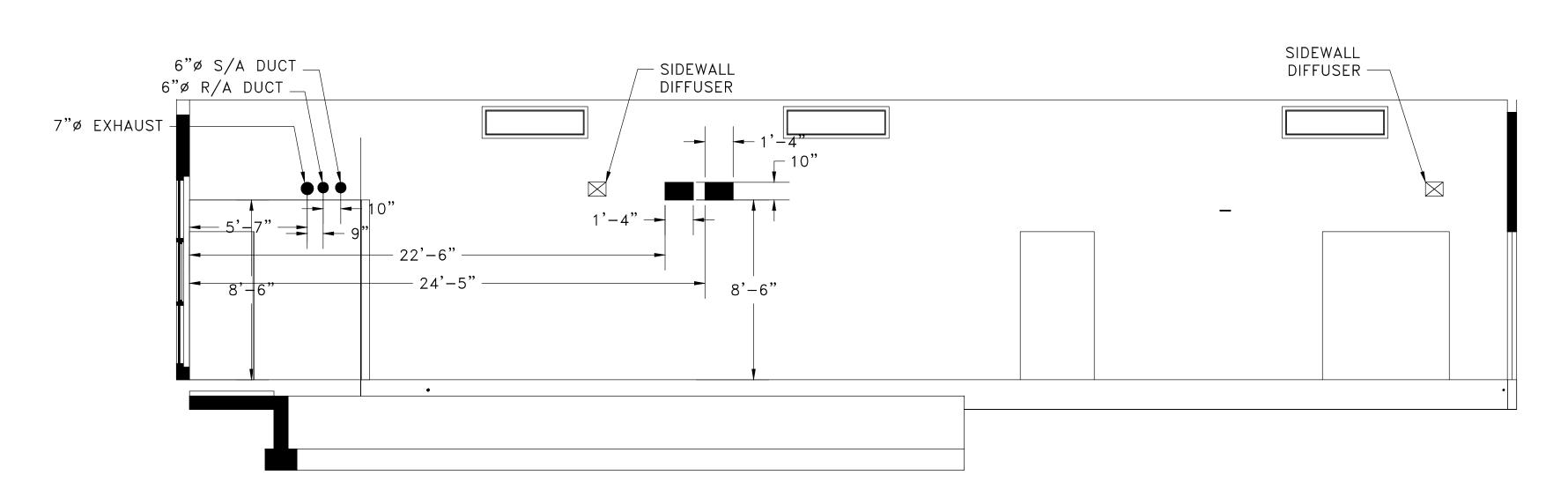
NOTE:

 THIS DRAWING IS DIAGRAMMATIC — DO NOT SCALE. FIELD VERIFY ALL PIPE ROUTING AND CONNECTION POINTS.









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MECHANICAL PLAN FIRST FLOOR

M-2.2

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0.00 |0.50 |1.00

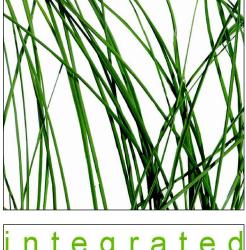
STATE OF CALIFORNIA MECHANICAL SYSTEMS CEC NIDEO MCH 04 F (Provided 04/46)					- -	ALIFORNIA ENERGY CO	OMMISSION	STATE OF CALIFORNIA MECHANICAL SYSTEM CEC NECC MCH Of F. (Paylord 0.4/46)	IS								CALIFORN	ENERGY OCCU	MISSION
CEC-NRCC-MCH-01-E (Revised 01/16) CERTIFICATE OF COMPLIANCE					CA		NRCC-MCH-01-E	CEC-NRCC-MCH-01-E (Revised 01/16) CERTIFICATE OF COMPLIANCE									CALIFORNIA	NRO	CC-MCH-01-E
Mechanical Systems Project Name: To Help Everyone (Lennox Clinic)				Date Pro	epared: 05-Mar-201	.9	Page 1 of 4	Mechanical Systems Project Name: To Help Everyone (Len	nox Clinic)						Date	Prepared: 05-M	ar-2019		Page 2 of 4
A. MECHANICAL COMPLIANCE DOCUMENTS & Note: The Enforcement Agency may require all forms	rgy Efficiency Standa to be incorporated o	ırds compliance foi	rms, refer to the 2		al Manual			B. MECHANICAL HVAC ACCE Test Performed By: Designer:	PTANCE FO	-				-					
YES NO Comp. Doc./Worksheet #	Title Certificate of Comp Certificate of Comp Certificate of Comp	pliance, Required A pliance, Required A	Acceptance Tests Acceptance Tests	(MCH-02-A to 11- (MCH-12-A to 18-	A). Required on pl -A). Required on pl	lans where applica	able.	This compliance document is to be for all acceptance tests that apply a systems. Installing Contractor: The contractor who installed the ed	nd list all equ	ipment that rec	quires an accep	otance test. Al	l equipment of t	he same type tl	nat requires a te	est, list the equi	pment descript	on and the nu	umber of
● NRCC-MCH-02-E (Part 1 of 2) • NRCC-MCH-02-E (Part 2 of 2)	Mechanical Dry Eq Mechanical Wet Ed systems. It is option	quipment Summar						for the acceptance testing, each pe Enforcement Agency: Plancheck - The NRCC-MCH-01-E co	rson shall sigr	and submit the	e Certificate of	Acceptance a	pplicable to the	portion of the	construction or	installation for	which they are	responsible.	
○ NRCC-MCH-03-E	Mechanical Ventila optional on plans. Power Consumption				ultiple zone heatir	ng and cooling syst	tems. It is	Inspector - Before occupancy perm Test Description		ll newly installe	d process syste	ems must be t		proper operation	ons.				
NRCC-MCH-07-E (Part 2 of 2)	Power Consumption				licable			Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distributio Ducts	Economize Controls				Supply Water	Hydronic System Variable	Demand
								HP-1,-3 (Trane 4WCY4036)	2	V	V		V	(DCV)			Temp. Reset	Flow Contro	ol Shed Contro
								HP-2 (Trane 4WCY4030) Add Row Remove Last	1	V	V	V	V						
CA Building Energy Efficiency Standards - 2016 Nonreside	ntial Compliance						January 2016	CA Building Energy Efficiency Star	ndards - 2016	Nonresidential	Compliance							,	January 2016
STATE OF CALIFORNIA MECHANICAL SYSTEMS CEC-NRCC-MCH-01-E (Revised 01/16) CERTIFICATE OF COMPLIANCE					CA	ALIFORNIA ENERGY CO	NRCC-MCH-01-E	STATE OF CALIFORNIA MECHANICAL SYSTEM CEC-NRCC-MCH-01-E (Revised 01/16) CERTIFICATE OF COMPLIANCE	ıs								CALIFORNIA		CC-MCH-01-E
Mechanical Systems Project Name: To Help Everyone (Lennox Clinic)				Date Pro	epared: 05-Mar-201	.9	Page 3 of 4	Mechanical Systems Project Name: To Help Everyone (Len	nox Clinic)						Date	Prepared: 05-M	ar-2019		Page 4 of 4
C. MECHANICAL HVAC ACCEPTANCE FORMS (check	oox for required com	pliance document	ts)					DOCUMENTATION AUTHOR'S DEC 1. I certify that this Certificate o			is accurate and	d complete							
Test Performed By: Designer: This compliance document is to be used by the designer ar for all acceptance tests that apply and list all equipment th systems.								Documentation Author Name: Chester J B Company: C.J. Barszcz & Associates Address: 9030 W. Sahara Ave #172	arszcz		is accurate uni	a complete.	Signature I	ation Author Signatu Date: Certification Identif		·):			
Installing Contractor: The contractor who installed the equipment is responsible for the acceptance testing, each person shall sign and subr Enforcement Agency:								City/State/Zip: Las Vegas, NV 89117 RESPONSIBLE PERSON'S DECLARA		MENT			Phone: 70	02.240.7240					
Plancheck - The NRCC-MCH-01-E compliance document is Inspector - Before occupancy permit is granted all newly in Test Description					epartment unless the	e correct boxes are o	checked. MCH-18-A	I certify the following under penal 1. The information provided on 2. I am eligible under Division 3 designer).	this Certificat	e of Compliance	e is true and co	orrect.	oility for the bui	lding design or s	ystem design id	lentified on this	Certificate of C	ompliance (res	:sponsible
Equipment Requiring Testing or # of Units	Fault Detection	Automatic Fault		Thermal Energy Storage (TES)		Condenser Water Reset Controls	ECMS	3. The energy features and perf conform to the requirements 4. The building design features worksheets, calculations, pla 5. I will ensure that a completer	of Title 24, Pa or system des ns and specific d signed copy	art 1 and Part 6 ign features ide cations submitt of this Certifica	of the Californ entified on this ed to the enfor te of Complian	nia Code of Re Certificate of rcement agen nce shall be ma	gulations. Compliance are cy for approval ade available wi	consistent with with this buildin th the building _l	the information g permit applic permit(s) issued	n provided on c ation. for the building	other applicable	compliance do	locuments,
HP-1,-3 (Trane 4WCY4036) 2 HP-2 (Trane 4WCY4030) 1	V							agency for all applicable insp building owner at occupancy Responsible Designer Name: Chester J.		erstand that a c	ompleted signe	ed copy of thi		le Designer Signatur		cluded with the	documentation	the builder pr	ovides to the
Add Row Remove Last								C.J. Barszcz & Associat	es				Date Signe						
								Address: 9030 W. Sahara Ave #172 City/State/Zip: Las Vegas, NV 89117					I	M-25802 '02.240.7240					
CA Building Energy Efficiency Standards - 2016 Nonreside	ntial Compliance						January 2016	CA Building Energy Efficiency Star	ndards - 2016	Nonresidential	Compliance								January 2016

HVAC Dry System Requirements			Date Prepared: 05-Mar-2019	NRCC-MCH-02-E (Page 1 of 3)
Project Name: To Help Everyone (Lennox Clinic)			05-Mar-2019	
A. Equipment Tags and System Descript MANDATORY MEASURES	ion¹- Dry Systems	HP-1,-2,-3 Reference to the	 Requirements in the Co	ontract Documents ²
Heating Equipment Efficiency ³	110.1 or 110.2(a)	M-1.2		
Cooling Equipment Efficiency ³ HVAC or Heat Pump Thermostats	110.1 or 110.2(a) 110.2(b), 110.2(c)	M-1.2 M-1.0		
Furnace Standby Loss Control	110.2(d)	N/A		
Low Leakage AHUs Ventilation ⁴	110.2(f) 120.1(b)	N/A M-1.1		
Demand Control Ventilation ⁵	120.1(c)4	N/A		
Occupant Sensor Ventilation Control ⁶ Shutoff and Reset Controls ⁷	120.1(c)5, 120.2(e)3 120.2(e)	N/A N/A		
Outdoor Air and Exhaust Damper Control	120.2(f)	M-1.0		
Isolation Zones Automatic Demand Shed Controls	120.2(g) 120.2(h)	N/A N/A		1
Economizer FDD Duct Insulation	120.2(i) 120.4	N/A M-1.0		
PRESCRIPTIVE MEASURES	120.4	101-1.0		
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	● Yes ○ No	○ Yes ○ No	O Yes O No
Supply Fan Pressure Control	140.4(c)	N/A	N/A	
Simultaneous Heat/Cool ⁸ Economizer	140.4(d) 140.4(e)	N/A M-1.2	N/A N/A	
Heat and Cool Air Supply Reset	140.4(f)	N/A	N/A	
Electric Resistance Heating ⁹ Duct Leakage Sealing and Testing. ¹⁰	140.4(g) 140.4(l)	N/A M-1.0	N/A M-1.0	
Notes:	1		1	•
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CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

January 2016

STATE OF CALIFORNIA
HVAC DRY & WET SYSTEM REQUIREMENTS CALIFORNIA ENERGY COMMISSION CEC-NRCC-MCH-02-E (Revised 01/16) CERTIFICATE OF COMPLIANCE NRCC-MCH-02-E HVAC Dry & Wet System Requirements (Page 2 of 3) Project Name: To Help Everyone (Lennox Clinic) Date Prepared: 05-Mar-2019 B. Equipment Tags and System Description¹- Wet Systems T-24 Sections MANDATORY MEASURES Reference to the Requirements in the Contract Documents² Heating Hot Water Equipment Efficiency³ Cooling Chilled and Condenser Water 110.1, 140.4(i) Equipment Efficiency³ Open and Closed Circuit Cooling Towers 110.2(e) 1 conductivity or flow-based controls Open and Closed Circuit Cooling Towers 110.2(e) 2 Maximum Achievable Cycles of Concentration (LSI)⁶ Open and Closed Circuit Cooling Towers 110.2(e) 3 Flow Meter with analog output Open and Closed Circuit Cooling Towers 110.2(e) 4 Overflow Alarm Open and Closed Circuit Cooling Towers Efficient Drift Eliminators 110.2(e) 5 Pipe Insulation PRESCRIPTIVE MEASURES Cooling Tower Fan Controls Cooling Tower Flow Controls Centrifugal Fan Cooling Towers⁴ Air-Cooled Chiller Limitation⁵ Variable Flow System Design Chiller and Boiler Isolation CHW and HHW Reset Controls 140.4(k) WLHP Isolation Valves VSD on CHW, CW & WLHP Pumps >5HP DP Sensor Location 1. Provide equipment tags (e.g. CH 1 to 3) or system description (e.g. CHW loop) as appropriate. Multiple units with common requirements can be grouped together. 2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system. 3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. For chillers operating at non-standard efficiencies provide the Kadj values. For chillers also note whether the efficiencies are Path A or Path B. 4. Identify if cooling towers have propeller fans. If towers use centrifugal fans document which exception is used. 5. If air-cooled chillers are used, document which exceptions have been used to comply with 140.4(j) and the total installed design capacity of the air-cooled chillers in the chilled water plant. 6. Identify the existence of a completed MCH-06-E when open or closed circuit cooling towers are specified to be installed, otherwise enter "N/A". CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016



management şustajnability

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29-Mar-19 CJB

18-08003.01

TITLE-24 FORMS - 1

C.J. Barszcz & Associates
9030 W. Sahara Ave #172 Las Vegas, NV 89117 702-240-7240 https://cjbarszczassoc.com Consulting Mechanical Engineers

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CERTIFI	CATE OF (COMPLIA	NCE															NF	RCC-MC	1-03-E
Mechar	ical Venti	lation & I	Reheat																Page 1	of 2
Project Nam	e: To Help	Everyone	(Lennox Cl	linic)										Date Prepa	red: 05-M	ar-2019				
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ZONE/SYSTEM/VAV BOX TAG	DESIGN PRIMARY COOLING AIRFLOW (CFM)	DESIGN PRIMARY DEADBAND AIRFLOW (CFM)	DESIGN PRIMARY HEATING AIRFLOW (CFM)	CONTROL TYPE DDC (Y/N)	TRANSFER AIRFLOW (CFM)	CONDITIONED AREA (ft.²)	MIN CFM PER AREA	MIN CFM BY AREA	NUMBER OF PEOPLE	CFM PER PERSON	MIN CFM BY OCCUPANT	MIN CFM BY ROOM	REQ'D VENT AIRFLOW (CFM)	COMPLIES?	BASED DESIGN PRIMARY COOLING AIR	MAXIMUM REHEAT (CFM)	COMPLIES?	PRIMARY COOLING AIR	AIRFLOW	COMPLIES?
HP-1	1,200	1,200	1,200	No	0	777	0.15	117	22	15	330		330	PASS						
IID 2	1,035	1,035	1,200	No	0	643	0.15	96	15	15	225		225	PASS						
HP-2																				

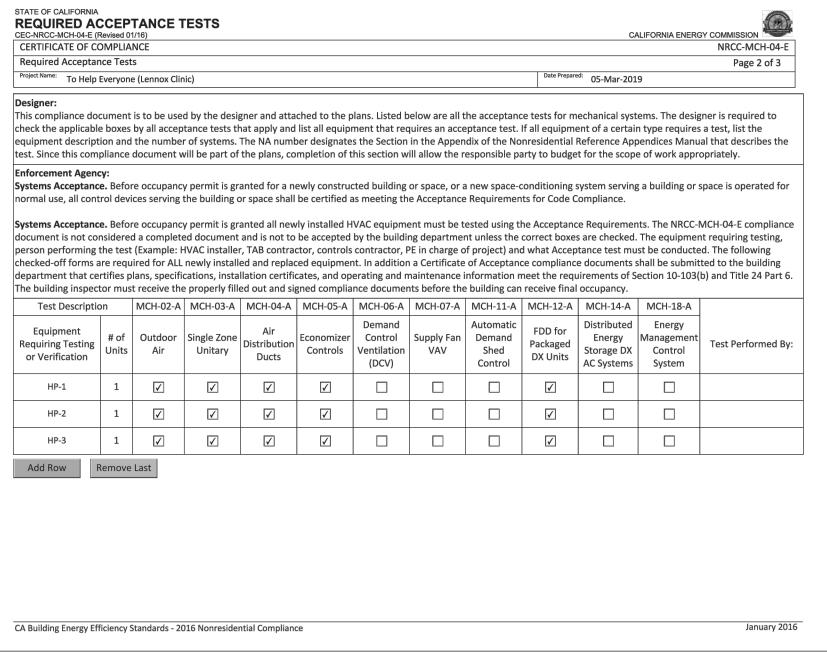
CERTIFICATE OF COMPLIANCE	NRCC-MCH-0
Mechanical Ventilation & Reheat	Page 2 o
Project Name: To Help Everyone (Lennox Clinic)	Date Prepared: 05-Mar-2019
*	00 1101 2017
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT 1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Chester J. Barszcz	Documentation Author Signature:
Company: C.J. Barszcz & Associates	Signature Date:
Address: 9030 W. Sahara Ave #172	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Las Vegas, NV 89117	Phone: 702.240.7240
RESPONSIBLE PERSON'S DECLARATION STATEMENT	7522.072.0
	approval with this building permit application. /ailable with the building permit(s) issued for the building, and made available to the enforcemer ificate of Compliance is required to be included with the documentation the builder provides to t Responsible Designer Signature:
Cliester J. Barszcz	
Company:	Date Signed:
	Licance
Address: 9030 W. Sahara Ave #172	License: M-25802
Address: 9030 W. Sahara Ave #172	Liconce
Company: C.J. Barszcz & Associates Address: 9030 W. Sahara Ave #172 City/State/Zip: Las Vegas, NV 89117	License: M-25802

CEDTIEIC																
CENTIFICA	ATE OF COM	IPLIANCE		NRCC-MCH-04-E												
Required	Acceptance	Tests		Page 1 of 3												
Project Name:	To Help Eve	ryone (Lennox Clinic)		Date Prepared: 05-Mar-2019												
		COMPLIANCE FORMS & WOR	RKSHEETS													
•		t is included)														
Note: The	: Enforceme	nt Agency may require all complian	ice documents to be incorporated onto the building plans. The N	for detailed instructions on the use of this and all Energy Standards compliance documents, refer to the 2016 Nonresidential Manual Note: The Enforcement Agency may require all compliance documents to be incorporated onto the building plans. The NRCC-MCH-04-E and NRCC-MCH-05-E are alternative												
	ompliance documents to NRCC-MCH-01-E, NRCC-MCH-02-E and NRCC-MCH-03-E for projects using only single zone packaged HVAC systems.															
complian	ce documen	ts to NRCC-MCH-01-E, NRCC-MCH-	02-E and NRCC-MCH-03-E for projects using only single zone pa													
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YES	NO	Form	Title	ckaged HVAC systems.												
YES	NO O	Form NRCC-MCH-04-E (1 of 2)	Title Certificate of Compliance. Required on plans when used.	d.												

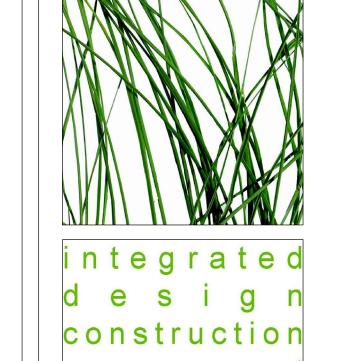
CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

STATE OF CALIFORNIA
REQUIRED ACCEPTANCE TESTS



	NRCC-MCH-0
Required Acceptance Tests	Page 3 of
Project Name: To Help Everyone (Lennox Clinic)	Date Prepared: 05-Mar-2019
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	<u> </u>
1. I certify that this Certificate of Compliance documentation is accurate and	d complete.
Documentation Author Name: Chester J. Barszcz	Documentation Author Signature:
Company: C.J. Barszcz & Associates	Signature Date:
Address: 9030 W. Sahara Ave #172	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Las Vegas, NV 89117	Phone: 702.240.7240
RESPONSIBLE PERSON'S DECLARATION STATEMENT	
 conform to the requirements of Title 24, Part 1 and Part 6 of the California The building design features or system design features identified on this Common worksheets, calculations, plans and specifications submitted to the enforce I will ensure that a completed signed copy of this Certificate of Compliance agency for all applicable inspections. I understand that a completed signed building owner at occurancy. 	Certificate of Compliance are consistent with the information provided on other applicable compliance documents,
Responsible Designer Name: Chester J. Barszcz	Responsible Designer Signature:
Company: C.J. Barszcz & Associates	Date Signed:
Address: 9030 W. Sahara Ave #172	License: M-25802
City/State/Zip: Las Vegas, NV 89117	Phone: 702.240.7240



şustajnability

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LENNOX, CA 90304

project titl							
drawn by checked by project titl							
drawn by							
remarks							

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TITLE-24 FORMS - 2

M - 3.1

C.J. Barszcz & Associates
9030 W. Sahara Ave #172 Las Vegas, NV 89117
702-240-7240 https://cjbarszczassoc.com

Consulting Mechanical Engineers

MANDATORY MEASURES

Hot Water Piping Insulation

Hot water piping shall be insulated per Title-24 requirements for non-residential applications, (Section 120.3 and Table 120.3-A).

Service hot water piping (105°F - 140°F) shall be insulated with minimum R-4.5 with a minimum rating temperature of 150°F. Insulation thickness shall be minimum 1.0" thick on pipes less than 1" in diameter and 1.5" thick on pipes between 1.0" and 1.5" in diameter.

Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind, including but not limited to, the following:

- Insulation exposed to weather shall be suitable for outdoor service by either being rated by the manufacturer for outdoor use or by being covered e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover.
- Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation that can cause degradation of the material.

Service hot water systems with recirculating pumps shall be provided with controls (a timer) that shall be capable of turning off the system.

An automatic air release valve shall be installed on the recirculation loop piping on the inlet side of the recirculating pump no more than 4 feet from the pump. This valve shall be mounted on a vertical riser at least 12" in length and accessible for maintenance and repair. Alternately, the pump shall be installed in a vertical section of the return line.

A check valve shall be installed between the circulating pump and the water heater to prevent water from flowing backward through the recirculation loop.

A hose bibb shall be installed between the pump and the water heater for system priming and bleeding air from the recirculating system.

Provide isolation valves on both sides of the pump for maintenance.

Water Conservation Ordinance Notes - (Form GRN 18N)

Section 5.303.1 Building is existing and TI is less than 50,000 sf.

Section 5.303.2 Projects having a CW supply of 2" or less may use the prescriptive method outlined in Section 5.303.2. See fixture specifications and related notes on this sheet

Section 5.304 There are no modifications to landscaping in this project

Section 5.305.4 This project uses existing condenser water piping.

Section 610.4.1 Connections length between a hot water supply fixture (faucet) and the hot water circulating system header shall not exceed 15 feet of 3/4"copper piping

(see sheet P-1.1).

Codes, Permits, Fees, Inspections, Rules and Regulations

The Installer shall comply with all requirements of City, County, State, and Federal codes ordinances, and regulations. The Installer shall obtain and pay for all construction permits, inspections, etc., as required.

All work shall be performed in compliance with the following codes and standards:

- 2016 California Building Code
- 2016 California Mechanical code
- 2016 California Plumbing Code2016 California Mechanical Code
- 2016 California Code (Title-24)
- 2016 California Code (Title-24)
 2016 California Green Building Standards Code

SCOPE OF WORK

The work under this contract consists of furnishing all labor, materials, permits, inspection fees, and services required for the complete installation of the plumbing work shown on these documents and as required by any special conditions identified at the jobsite. The General and Special Conditions of the contract are hereby made a part of this section.

The scope of the work includes the installation, alteration, relocation, and connection of pipes, fixtures, water heaters, and appliances as shown on these documents for hot and cold fresh water supply, waste, and vent connections as applicable. Coordinate with other trades where required for connection of condensate drains or other connections to appliances and kitchen equipment.

Materials

All materials furnished under this contract shall be new, free from defects, and shall conform with the standards of the UL and NSF where such standards have been established, and shall be so labeled. Incidental materials not specified herein that are required to complete the work shall be of first (highest) quality for the use intended. Manufacturer's names and catalog numbers are used to designate the item of material or equipment as a means of establishing grade and quality. Manufacturers of a similar quality will be considered upon submittal by the contractor and may be substituted with written approval.

Installation

The entire installation shall be made in a neat, workmanship-like, finished, and safe manner. Conceal all piping in finished areas, unless otherwise noted. The entire installation shall be subject to the Project Architect's and Owner's approval.

Provide dielectric protection at all dissimilar metal junctions or contact points. Roof and wall penetrations shall be properly sealed against weather penetration.

ALL PIPING SHALL BE BRACED OR SUPPORTED INDEPENDENTLY. Equipment connections shall not be used to support the weight of attached piping.

ALL EQUIPMENT AND FIXTURES SHALL BE BRACED OR SUPPORTED INDEPENDENTLY. Piping alone shall not be used to support the weight of fixtures or equipment.

All equipment and fixtures shall be installed per manufacturer's recommendations which shall have precedence over this drawing in all cases. Contact Engineer for confirmation prior to deviating from this document.

Materials

Water Piping

Type L copper with wrought copper fittings. Use lead-free 95/5 solder for all field joints.

Drain, Waste, and Vent Piping

Standard weight cast iron no-hub and matching fittings.

Storm Drains

Standard weight cast iron no-hub and matching fittings.

Indirect Waste Condensate Drains

Type L copper with wrought copper fittings. Use lead-free 95/5 solder for all field joints.

Fuel Gas Piping

Black steel - Schedule 40, with black steel or malleable iron threaded fittings.

NOTE: THIS IS AN OSHPD-3 MEDICAL OFFICE

Equipment



American Water Heaters Model ITCE31-50, 50 gallon tank, with immersion thermostat, electronic controls and CSA/ASME rated temperature/pressure relief valve.

Power input: 6kW @ 208V/1Ø/60 29 max amps

Minimum inlet temperature: 60°F

Supply loop temperature: $120^{\circ}F$, $\Delta T = 60^{\circ}F$, 41 gph recovery capacity (per tank) **CAUTION: NO CONNECTIONS TO SINKS OR LAVATORIES AT THIS TEMPERATURE.** Provide complete with lead-free isolation/service valves and mixing valve at any faucet

connection. See fixture table for detail on mixing valves.

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Expansion Tank

Watts model DETA-5 ASME rated pressurized expansion tank for potable hot water with carbon steel shell, stainless steel system connection, and FDA approved butyl bladder. Precharge = 40 psi

Total tank volume = 3.5 gallons (Estimated actual total volume = 2.92)

Max acceptance = 1.3 gallons (Estimated actual acceptance = 0.75 gallons)

Static weight: 22 lbs

Max allowable temperature = 240°F (Max design temperature = 120°F)

Estimated weight at full acceptance: 52 lbs

Estimated system volume: 125 gallons (2 x 50 gal WH + 15 gal in piping + 10% misc)

Expansion Tank Support Bracket

HoldRite model "Quick Strap #QS-12" thermal expansion tank mounting bracket or equal. Stainless steel bracket and straps, load capacity 70 lbs.

Provide fasteners compatible with mounting surface.



Hot Water Circulation Pump

Taco model 008-IFC circulating pump, stainless steel flanged body with 1/25 HP, 115V, 60 Hz

Hot Water Circulation Pump Timer

Intermatic model ET-1705-120VAC-SPST Electronic Timer to control hot water circulation pump with integral steel NEMA Type-3 enclosure. Pump and timer to be same voltage (120V/1Ø/60) with internal battery backup. Programmable for 7-day operation, 28 events (up to 4 points per day), EPROM program memory, CA Title-24 compliant. Coordinate installation with Electrical Contractor.

Water Heater Enclosure

HoldRite model "Quick Strap #QS-12" thermal expansion tank mounting bracket. Stainless steel bracket and straps, load capacity 70 lbs.

Provide fasteners compatible with mounting surface.

Hot Water Return Flow Control Valve

ICSS model ICSS075FFH-1 in-line stainless steel flow controller, cartridge code "A+" (1.0 GPM), pressure range "H" (5 - 60 psi differential), 1/2" FPT inlet, 1/2" FPT union outlet. Alternate end style may be substituted for installation convenience.

Hot Water Recirculating Line Check Valve

Watts LFWCV (threaded) or LFWCVS (sweat fitting) brass lead-free swing check valve. Size to match pipe size where installed.

Drinking Water Fountain

TO BE PROVIDED BY OWNER

Fixtures

- See fixture table sheet P-1.1
- S JANITOR SINK
- SK COUNTERTOP SINK
- LAV LAVATORY
 WC WATER CLOSET / TOILET

NOTE: ALL FIXTURES LISTED FOR DESIGN REFERENCE ONLY. VERIFY ALL FIXTURES WITH ARCHITECT OR MEDICAL SYSTEM DESIGNER PRIOR TO PURCHASE OR INSTALLATION.

- All faucets in public restrooms shall be self-closing or self-closing metering faucets
- All fixtures, equipment, piping, and materials shall be listed (UL, IAPMO, City of Los Angeles, etc.) as required.
- All plumbing fixtures shall meet the flow requirements specified in the Los Angeles Plumbing
 Code

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Scope of Work and Equipment Specifications

P-1 0

								FIXTURE TABLE (BY ROOM)			
Index	Mark	Location	Function	Туре	Fixture	Manufacturer	Model	Description	Finish	Color	Notes
1	WC-1	111	Restroom	1	Toilet	American Standard	2467.100	Cadet Flowise 1.1 GPF high-efficiency	11111311	White	Provide American Standard 5901.110T elongated, antimicrobial, open-front seat
2	LAV-1	111	Restroom	2	Lavatory	Kohler	K-2084-N Soho	Wall-hung sink		White	Provide K-8998 P-Trap with cleanout plug, drain tube assembly with fixed grid
3		111	Restroom	3	Faucet	American Standard	Selectronic 6057.104	Commercial single hole elect faucet	Chrome		For LAV-1; 0.35 gpm, 0.044 gal per cycle. Provide PK00.HAC hard-wired AC power supply kit (NO BATTERY SUPPLY); Provide 605XTMV1070 mixing valve (ASSE Certified for 0.35 gpm operation
4	WC-2	112	Restroom	1	Toilet	American Standard	2467.100	Cadet Flowise 1.1 GPF high-efficiency		White	Provide American Standard 5901.110T elongated, antimicrobial, open-front seat
5	LAV-2	112	Restroom	2	Lavatory	Kohler	K-2084-N Soho	Wall-hung sink		White	Provide K-8998 P-Trap with cleanout plug, drain tube assembly with fixed grid
6		112	Restroom	3	Faucet	American Standard	Selectronic 6057.104	Commercial single hole elect faucet	Chrome		For LAV-1; 0.35 gpm, 0.044 gal per cycle. Provide PK00.HAC hard-wired AC power supply kit (NO BATTERY SUPPLY); Provide 605XTMV1070 mixing valve (ASSE Certified for 0.35 gpm operation
7	WC-3	120	Restroom	1	Toilet	American Standard	2467.100	Cadet Flowise 1.1 GPF high-efficiency		White	Provide American Standard 5901.110T elongated, antimicrobial, open-front seat
8	LAV-3	120	Restroom	2	Lavatory	Kohler	K-2084-N Soho	Wall-hung sink		White	Provide K-8998 P-Trap with cleanout plug, drain tube assembly with fixed grid
9		120	Restroom	3	Faucet	American Standard	Selectronic 6057.104	Commercial single hole elect faucet	Chrome		For LAV-1; 0.35 gpm, 0.044 gal per cycle. Provide PK00.HAC hard-wired AC power supply kit (NO BATTERY SUPPLY); Provide 605XTMV1070 mixing valve (ASSE Certified for 0.35 gpm operation
10	WC-4	121	Restroom	4	Toilet	Kohler	K-96057-L Highline	High efficiency elongated bowl; 1.28 gpf		White	Provide American Standard 5901.110T elongated, antimicrobial, open-front seat
11		121	Restroom	5B	Bedpan Washer	American Standard	6047.820.002	Bedpan washer diverter kit	Chrome		1.28 gpf piston-operated manual flush valve; 1" CW inlet; 1-1/2" top spud
12	LAV-4	121	Restroom	6	Lavatory	Kohler	K-2084-N Soho	Wall-hung sink		White	Provide K-8998 P-Trap with cleanout plug, drain tube assembly with fixed grid
13		121	Restroom	7	Faucet	American Standard	Selectronic 6057.104	Commercial single hole elect faucet	Chrome		For LAV-1; 0.35 gpm, 0.044 gal per cycle. Provide PK00.HAC hard-wired AC power supply kit (NO BATTERY SUPPLY); Provide 605XTMV1070 mixing valve (ASSE Certified for 0.35 gpm operation
14	SK-1	105	Exam Rm	8	Sink	Just Mfg	SBL-ADA-1815-A-GR	Single bowl, single hole centered faucet punch	SS		Provide complete with J-15-CB fixed strainer grid & drain tailpiece
15		105	Exam Rm	9	Faucet	American Standard	Selectronic 6057.104	Commercial single hole elect faucet	Chrome		For LAV-1; 0.35 gpm, 0.044 gal per cycle. Provide PK00.HAC hard-wired AC power supply kit (NO BATTERY SUPPLY); Provide 605XTMV1070 mixing valve (ASSE Certified for 0.35 gpm operation
16	SK-2	106	Exam Rm	8	Sink	Just Mfg	SBL-ADA-1815-A-GR	Single bowl, single hole centered faucet punch	SS		Provide complete with J-15-CB fixed strainer grid & drain tailpiece
17		106	Exam Rm	9	Faucet	American Standard	Selectronic 6057.104	Commercial single hole elect faucet	Chrome		For LAV-1; 0.35 gpm, 0.044 gal per cycle. Provide PK00.HAC hard-wired AC power supply kit (NO BATTERY SUPPLY); Provide 605XTMV1070 mixing valve (ASSE Certified for 0.35 gpm operation
18	SK-3	107	Exam Rm	8	Sink	Just Mfg	SBL-ADA-1815-A-GR	Single bowl, single hole centered faucet punch	SS		Provide complete with J-15-CB fixed strainer grid & drain tailpiece
19		107	Exam Rm	9	Faucet	American Standard	Selectronic 6057.104	Commercial single hole elect faucet	Chrome		For LAV-1; 0.35 gpm, 0.044 gal per cycle. Provide PK00.HAC hard-wired AC power supply kit (NO BATTERY SUPPLY); Provide 605XTMV1070 mixing valve (ASSE Certified for 0.35 gpm operation
20	SK-4	108	Exam Rm	8	Sink	Just Mfg	SBL-ADA-1815-A-GR	Single bowl, single hole centered faucet punch	SS		Provide complete with J-15-CB fixed strainer grid & drain tailpiece
21		108	Exam Rm	9	Faucet	American Standard	Selectronic 6057.104	Commercial single hole elect faucet	Chrome		For LAV-1; 0.35 gpm, 0.044 gal per cycle. Provide PK00.HAC hard-wired AC power supply kit (NO BATTERY SUPPLY); Provide 605XTMV1070 mixing valve (ASSE Certified for 0.35 gpm operation
22	SK-5	116	Exam Rm	8	Sink	Just Mfg	SBL-ADA-1815-A-GR	Single bowl, single hole centered faucet punch	SS		Provide complete with J-15-CB fixed strainer grid & drain tailpiece
23		116	Exam Rm	9	Faucet	American Standard	Selectronic 6057.104	Commercial single hole elect faucet	Chrome		For LAV-1; 0.35 gpm, 0.044 gal per cycle. Provide PK00.HAC hard-wired AC power supply kit (NO BATTERY SUPPLY); Provide 605XTMV1070 mixing valve (ASSE Certified for 0.35 gpm operation
24	SK-6	118	Exam Rm	8	Sink	Just Mfg	SBL-ADA-1815-A-GR	Single bowl, single hole centered faucet punch	SS		Provide complete with J-15-CB fixed strainer grid & drain tailpiece
25		118	Exam Rm	9	Faucet	American Standard	Selectronic 6057.104	Commercial single hole elect faucet	Chrome		For LAV-1; 0.35 gpm, 0.044 gal per cycle. Provide PK00.HAC hard-wired AC power supply kit (NO BATTERY SUPPLY); Provide 605XTMV1070 mixing valve (ASSE Certified for 0.35 gpm operation
26	SK-7	102	Nurse Station	10	Sink	Just Mfg	A-544-912-S	Single bowl, single hole centered faucet punch	SS		Provide Just JT-150 trap and Just J-15-FS drain
27		102	Nurse Station	10	Faucet	Just Mfg	JSL-46-AC	Institutional elect faucet	Chrome		For SK-7; plug-in power option; Laminar flow 2.0 GPM, adjustable cycle time. Provide JTM47 thermostatic anti-scald mixing valve. Adjust temp to 105F Set cycle time to 0 (active until no activity sensed)
28	SK-8	114	Soiled	11	Sink	Just Mfg	SL-2119-A-GR	Single bowl, 3-hole, 4" centers	SS		Provide complete with J-35 stainless steel basket strainer w/locking shell
29		114	Soiled	12	Faucet	Just Mfg	J-1174-KS	Concealed ledgemount, 8" centers	Chrome		For SK-8
30	SK-9	104	Medical Lab	13	Sink	Just Mfg	DLN-2137-A-GR	Double bowl, 3-hole, 4" centers	SS		Integra-Drain integral drain system includes custom basket strainer & tailpiece
31	CI/ C	104	Medical Lab	14	Faucet	Just Mfg	J-1174-KS	Concealed ledgemount, 8" centers	Chrome		For SK-9
32	SK-9 SK-11	104	Medical Lab Housekeeping	14B 15	Eyewash - Faucet Mount Sink	Just Mfg Kohler	JG-1100 K-6718 (Bannon)	Single bowl, standard wall mount, enamel finish	Chrome	White	Provide K-6673-NA Adjustable support trap with cleanout plug & fixed strainer grid
34	OV TT	124	Housekeeping	16	Faucet	Chicago Faucets	897-RCF	ombie powi, standard wan mount, chamer milish	Chrome	VVIIICE	For SK-11
	_		. 5								
35	DF-1	100	Waiting Room	17	Drinking Fountain	Elkay	LZ(S)TL8		TBD	TBD	**BY OWNER-INSTALLED BY GC
	SK-10	110	Staff Lounge		Sink	Just Mfg	SL-2119-A-GR	Single bowl, single hole centered faucet punch	SS		Provide complete with J-35 stainless steel basket strainer w/locking shell
37		110	Staff Lounge	19	Faucet	Kraus	Oletto KPF-2620		Chrome		For SK-10

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Plumbing Fixtures and Specifications

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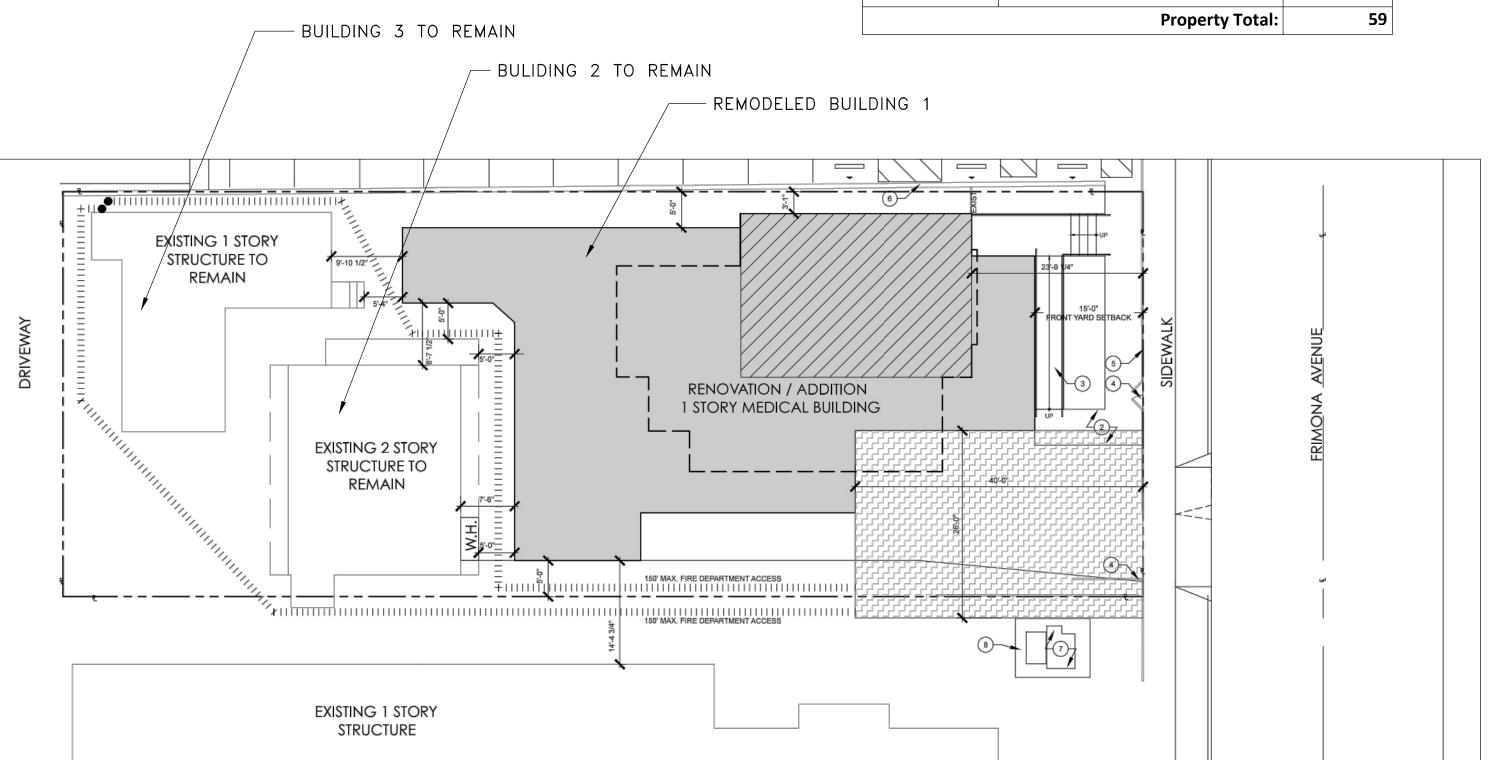
Eq					
Mark	Location	CW FU	HW FU	HW GPH	
LAV-01	Building 1 - Restrm - Staff 1	0.75	0.75	2	
LAV-01	Building 1 - Restrm -				
	Patient 1	0.75	0.75	3	0.4 gpm @ sink => (15) 30 sec hand wash per hr
LAV-02	Building 1 - Restrm - Staff 2	0.75	0.75	2	
LAV-02	Building 1 - Restrm - Patient 2	0.75	0.75	3	0.4 gpm @ sink => (15) 30 sec hand wash per hr
SK-1	Building 1 - Exam 1	0.75	0.75	2	0.4 gpm @ sink => 5 per hr (30 sec * 2) = 12 min/visit
SK-2	Building 1 - Exam 2	0.75	0.75	2	0.4 gpm @ sink => 5 per hr (30 sec * 2) = 12 min/visit
SK-3					
SK-4	Building 1 - Exam 3	0.75	0.75		0.4 gpm @ sink => 5 per hr (30 sec * 2) = 12 min/visit
SK-5	Building 1 - Exam 4	0.75	0.75	_	0.4 gpm @ sink => 5 per hr (30 sec * 2) = 12 min/visit
SK-6	Building 1 - Exam 5	0.75			0.4 gpm @ sink => 5 per hr (30 sec * 2) = 12 min/visit
SK-7	Building 1 - Exam 6	0.75	0.75		0.4 gpm @ sink => 5 per hr (30 sec * 2) = 12 min/visit
SK-8	Building 1 - Lab	0.75	0.75		
SK-9	Building 1 - Soiled	0.75	0.75	3	
SK-9 SK-10	Building 1 - Nurse Office	0.75	0.75	2	
	Building 1 - Lounge	2.25	2.25	2	
SK-11	Building 1 - Housekeeping	2.25	2.25	5	
WC-01	Building 1 - Restrm - Staff 1				
WC-02	Building 1 - Restrm -	2.5			
WC-03	Staff 2 Building 1 - Restrm -	2.5			
	Patient 1	2.5			
WC-04	Building 1 - Restrm -		I		
WC-04	Building 1 - Restrm - Patient 2	2.5			
Landscaping Sub-Total Wate	Patient 2 Building 1 - Exterior	2.5 1.0 25.25 39.5	14.25		
Landscaping Sub-Total Wate Total BuildingV	Patient 2 Building 1 - Exterior er Supply Vater Supply CWFU	1.0 25.25	14.25	37	
Landscaping Sub-Total Wate	Patient 2 Building 1 - Exterior er Supply Vater Supply CWFU	1.0 25.25	14.25	37	
Landscaping Sub-Total Wate Total BuildingV	Patient 2 Building 1 - Exterior er Supply Vater Supply CWFU	1.0 25.25	14.25	37	
Landscaping Sub-Total Wate Total BuildingV Total HW GPH	Patient 2 Building 1 - Exterior er Supply Vater Supply CWFU (Building 1)	25.25 39.5		37	All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1	Patient 2 Building 1 - Exterior Par Supply Water Supply CWFU (Building 1) Building 2 - Kitchen	1.0 25.25	0.75	37	All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1	Patient 2 Building 1 - Exterior er Supply Vater Supply CWFU (Building 1)	25.25 39.5	0.75	37	All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor	Patient 2 Building 1 - Exterior er Supply Vater Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental	25.25 39.5 0.75	0.75	37	All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1	Patient 2 Building 1 - Exterior Par Supply Water Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental	25.25 39.5 0.75	0.75	37	All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1	Patient 2 Building 1 - Exterior er Supply Vater Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta	1.0 25.25 39.5 0.75 1.00	0.75		All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory	Patient 2 Building 1 - Exterior Par Supply Water Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental	1.0 25.25 39.5 0.75 1.00 0.75 2.5	0.75 0.75		All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower	Patient 2 Building 1 - Exterior Par Supply Water Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75	0.75 0.75 0.75 3.0		All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2	Patient 2 Building 1 - Exterior Par Supply Water Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0	0.75 0.75 0.75 3.0 0.75		All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet	Patient 2 Building 1 - Exterior Par Supply Water Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75	0.75 0.75 3.0 0.75		All fixtures existing to remain - not part of remodel
Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping	Patient 2 Building 1 - Exterior Patient 2 Building 1 - Exterior Patient 2 Building 1 Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5	0.75 0.75 3.0 0.75		All fixtures existing to remain - not part of remodel
Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Buil	Patient 2 Building 1 - Exterior Patient 2 Building 1 - Exterior Patient 2 Building 1 Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0	0.75 0.75 3.0 0.75		All fixtures existing to remain - not part of remodel
Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Buil	Patient 2 Building 1 - Exterior Patient 2 Building 1 - Exterior Patient 2 Building 1 Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0	0.75 0.75 3.0 0.75		All fixtures existing to remain - not part of remodel
Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Buil	Patient 2 Building 1 - Exterior Patient 2 Building 1 - Exterior Patient 2 Building 1 Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0	0.75 0.75 3.0 0.75		All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Buil	Patient 2 Building 1 - Exterior Patient 2 Building 1 - Exterior Patient 2 Building 1 Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0	0.75 0.75 3.0 0.75		All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Building Total Building	Patient 2 Building 1 - Exterior Patient 2 Building 1 - Exterior Patient 2 Building 1 - Exterior Building 1 Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior Building 3 - Restrm Building 3 - Restrm	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0	0.75 0.75 3.0 0.75 6.00		All fixtures existing to remain - not part of remodel All fixtures existing to remain - not part of remodel
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Building Total Building Tub/Shower Lavatory-2	Patient 2 Building 1 - Exterior Par Supply Vater Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior Iding Water Supply Water Supply CWFU Building 3 - Restrm Building 3 - Restrm	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0 13.00	0.75 0.75 3.0 0.75 3.00		
Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Building Total Building Tub/Shower Lavatory-2 Toilet	Patient 2 Building 1 - Exterior Pr Supply Vater Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior Iding Water Supply Water Supply CWFU Building 3 - Restrm Building 3 - Restrm Building 3 - Restrm	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0	0.75 0.75 3.0 0.75 3.00 0.75		
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Building Total Building Tub/Shower Lavatory-2 Toilet	Patient 2 Building 1 - Exterior Par Supply Vater Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior Iding Water Supply Water Supply CWFU Building 3 - Restrm Building 3 - Restrm	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0 13.00 19	0.75 0.75 3.0 0.75 3.00 0.75		
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Building Total Building Tub/Shower Lavatory-2 Toilet Landscaping	Patient 2 Building 1 - Exterior Pr Supply Vater Supply CWFU (Building 1) Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior Iding Water Supply Water Supply CWFU Building 3 - Restrm Building 3 - Restrm Building 3 - Restrm	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0 13.00 19	0.75 0.75 3.0 0.75 3.00 0.75		
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Building Tub/Shower Lavatory-2 Total Building Sub-Total Building Sub-Total Building Sub-Total Building	Patient 2 Building 1 - Exterior Patient 2 Building 1 - Exterior Patient 2 Building 1) Building 1 Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 2 - 2nd Flr Building 2 - 2nd Flr Exterior Building 3 - Restrm Building 3 - Restrm Building 3 - Restrm Exterior	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0 13.00 19 3.00 0.75 2.5 1.0	0.75 0.75 3.0 0.75 3.00 0.75		
Landscaping Sub-Total Wate Total BuildingV Total HW GPH Sink-1 Cuspidor Lavatory-1 Toilet 1 Lavatory Tub/Shower Lavatory-2 Toilet Landscaping Sub-Total Building Tub/Shower Lavatory-2 Total Building Sub-Total Building	Patient 2 Building 1 - Exterior Patient 2 Building 1 - Exterior Patient 2 Building 1) Building 1 Building 2 - Kitchen Building 2 - Dental Sta Building 2 - Dental Building 2 - Dental Building 2 - Dental Building 2 - 2nd Flr Building 3 - Restrm Building 3 - Restrm Building 3 - Restrm Building 3 - Restrm Exterior	1.0 25.25 39.5 0.75 1.00 0.75 2.5 0.75 3.0 0.75 2.5 1.0 13.00 19 3.00 0.75 2.5	0.75 0.75 3.0 0.75 3.00 0.75		

POTABLE WATER HYDRAULIC CALCU	JLATION	
ltem	PRESSURE LOSS (psig)	AVAILABLE PRESSURE (psig)
SUPPLY PRESSURE (set at regulator)		60
PRESSURE LOSS TO HEIGHT (14' ABOVE METER)	6.1	53.9
PRESSURE REGULATOR (No regulator required - supply < 80 psi)	0	53.9
METER PRESSURE LOSS (NEW 1" Ø METER)	4.2	49.7
MINIMUM RESIDUAL PRESSURE REQUIRED	-	15
PRESSURE AVAILABLE FOR FRICTION LOSS		34.7
DIST TO MOST REMOTE FIXTURE (feet)	160	
PIPE FITTING ALLOWANCE FACTOR	1.25	
DEVELOPED PIPE LENGTH INCLUDING FITTING ALLOWANCE (160	x 1.25) = 200	
ALLOWABLE FRICTION LOSS (34.7 psig / 200 ft x 100) @ 7 fps		17.4 psi / 100 f

			WATE	ER PIPE	SIZING	}					
	FIXTUF	RE UNIT	ΓS vers	us FRIC	TION L	.OSS (F	SI/100	ft)			
			TYF	PE L CO	PPER						
Friction											
Loss											
psi	Nominal Pipe Diameter (inches)	0.5	0.75	1	1.25	1.5	2	2.5	3	3.5	4
100 ft	Internal Pipe Diameter (inches)	0.545	0.785	1.025	1.265	1.505	1.985	2.465	2.945	3.425	3.905
	Cold Water - Flush Valve	0	0	0	14	35	132	329	666	1091	1668
17	Cold Water - Flush Tank	4	16	30	56	103	254	455	719	1091	1668
	Hot Water (5 ft/s max)	3	8	16	28	46	119	245	406	585	840
	Cold Water - Flush Valve	0	0	0	14	35	132	329	666	1091	1668
17.5	Cold Water - Flush Tank	4	16	30	56	103	254	455	719	1091	1668
	Hot Water (5 ft/s max)	3	8	16	28	46	119	245	406	585	840

PLUMBING FIXTURE FLOW RATES Non-residential Occupancies								
Fixture Type	MAXIMUM ALLOWABLE FLOW RATE							
Showerheads	2.0 gpm @ 80 psi							
Kitchen faucets	1.8 gpm @ 60 psi							
Lavatory faucets, commercial/non-residential	0.4 gpm @ 60 psi							
Wash fountains	1.8*[rim space/20] gpm @ 60 psi							
Flushometer tank water closets	1.28 gal/flush							
Urinals	0.125 gal/flush							

Eq	FIXTURE DRAINAGE REQUIREMENTS	Drainage
Mark	Location	FU
JS-1	Building 1 - Housekeeping	
SK-1	Building 1 - Exam 1	
SK-2	Building 1 - Exam 2	
SK-3	Building 1 - Exam 3	
SK-4	Building 1 - Exam 4	
SK-5	Building 1 - Exam 5	
SK-6	Building 1 - Exam 6	
SK-7	Building 1 - Lab	
SK-7	Building 1 - Soiled	
SK-8	Building 1 - Lounge	
SK-9	Building 1 - Nurse Office	
LAV-01	Building 1 - Restrm - Staff 1	
LAV-02	Building 1 - Restrm - Staff 2	
LAV-01	Building 1 - Restrm - Patient 1	
LAV-02	Building 1 - Restrm - Patient 2	
WC-01	Building 1 - Restrm - Staff 1	
WC-02	Building 1 - Restrm - Staff 2	
WC-03	Building 1 - Restrm - Patient 1	
WC-04	Building 1 - Restrm - Patient 2	
	Building Sub-Total	3
Sink-1	Building 2 - Kitchen	
Cuspidor	Building 2 - Dental Sta	
Lavatory-1	Building 2 - Dental Sta	
Toilet 1	Building 2 - Dental	
Lavatory	Building 2 - Dental	
Tub/Shower	Building 2 - 2nd Flr	
Lavatory-2	Building 2 - 2nd Flr	
Toilet	Building 2 - 2nd Flr	
	Building Sub-Total	1
Tub/Shower	Building 3 - Restrm	
Lavatory-2	Building 3 - Restrm	
Toilet	Building 3 - Restrm	
	Building Sub-Total	
	Property Total:	5
	Property rotal:	3



SITE PLAN

SCALE: NONE

NOTE:

SITE PLAN REPRODUCED HERE ONLY TO INDICATE BUILDING REFERENCES. SEE ARCHITECT'S PLAN FOR DETAIL.

C.J. Barszcz & Associates
9030 W. Sahara Ave #172 Las Vegas, NV 89117 702-240-7240 https://cjbarszczassoc.com Consulting Mechanical Engineers

0.00 |0.50 |1.00

integrated

d e s i g n construction management sustainability totum

29-Mar-19 CJB

18-08003.01 Plumbing Fixture CW/HW/Drain Loads

CERTIF	ICATE C	F COMPLIANCE		CALIFORNIA ENERGY COMMISSION NRCC-PLB-01-							
Water	Heating	System General Infor	mation	(Page 1 of 2							
Project Na	^{me:} To He	lp Everyone (Lennox Clin	ic)	Date Prepared: 05-Mar-2019							
A GEN	JERAI IN	NFORMATION/SYSTEM	I INFORMATION	N.							
		eater System Name:									
		eater System Configur	ation:	Central System							
		eater System Type:	acioni	Domestic Hot Water							
	Building			Nonresidential							
_		mber of Water Heater	s in Systems:	2							
_		OHW Distribution Type		Recirculation Continuous Monitoring Systems							
-				Recirculation continuous Monitoring Systems							
07	Dweiling	Unit DHW Distributio	n Type:								
B. WA	TER HEA	TER INFORMATION									
		ater type requires a se	parate complian								
		eater Type:		Small Storage - Electric							
	Fuel Typ			Electricity							
		cture Name:		American Water Heater							
	Model N			ITCE31-50							
		of Identical Water Hea		2							
		Water Heater System	Efficiency:								
_		d Minimum Efficiency:									
		Loss Percent or Stand	by Loss Total:								
	Rated In	•									
	Pilot Ene										
		eater Tank Storage Vo		50 gal / tank							
		Insulation on Water H		None							
		of Supplemental Stora									
		Insulation on Supplem									
15	Exterior	Insulation on Supplem	ental Storage:								
C DILLE	ARING (COMPLIANCE FORMS &	. WODVSHEETS								
		orksheet is included.	X WORKSHEETS								
			s and all Fneray S	tandards compliance documents, refer to the 2016 Nonresidential Manual							
		•		documents to be incorporated onto the building plans.							
YES	NO	Doc/Worksheet #	Title								
0	0	NRCC-PLB-01-E	Certificate of C	Compliance, Declaration. Required on plans for all submittals.							
0	0	NRCI-PLB-01-E	Certificate of I	nstallation. Required on plans for all submittals.							
0	•	NRCI-PLB-02-E	Certificate of I hotel/motel ap	nstallation, required on central systems in high-rise residential, oplication.							
0	•	NRCI-PLB-03-E		nstallation, required on single dwelling unit systems in high-rise tel/motel application.							
0	•	NRCI-PLB-21-H	Certificate of I	Installation, required on HERS verified central systems in high-rise otel/motel application.							
0	•	NRCI-PLB-22-H	Certificate of I	nstallation, required on HERS verified single dwelling unit systems in high I, hotel/motel application.							
_	•	NRCI-STH-01-E		nstallation, required on any solar water heating							
0											

WATER HEATING SYSTEM GENERAL INFO DEC-NRCC-PLB-01-E (Revised 01/16)	DRMATION	CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-PLB-01-
Water Heating System General Information		(Page 2 of 2
Project Name: To Help Everyone (Lennox Clinic)		Date Prepared: 05-Mar-2019
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT 1. I certify that this Certificate of Compliance documentation is	accurate and complete	
Documentation Author Name: Chester J. Barszcz	Documentation Author Signat	ture:
Company: C.J. Barszcz & Associates	Signature Date:	
Address: 9030 W. Sahara Ave #172	CEA/ HERS Certification Identi	ification (if applicable):
City/State/Zip: Las Vegas, NV 89117	Phone: 702.240.7240	
RESPONSIBLE PERSON'S DECLARATION STATEMENT	702.240.7240	
I certify the following under penalty of perjury, under the laws of	the State of California:	
system design identified on this Certificate of Compliance co California Code of Regulations. 4. The building design features or system design features identifing information provided on other applicable compliance document the enforcement agency for approval with this building permoder. 5. I will ensure that a completed signed copy of this Certificate issued for the building, and made available to the enforcement signed copy of this Certificate of Compliance is required to be supported to be supported by the compliance of the supported by the compliance of the supported by t	ified on this Certificate of C nents, worksheets, calculatinit application. of Compliance shall be mad ent agency for all applicable	compliance are consistent with the cons, plans and specifications submitted to de available with the building permit(s) inspections. I understand that a completed
owner at occupancy. Responsible Designer Name: Chapter Parcere	Responsible Designer Signatu	ire:
Criester J. Barszcz		
Company: C.J. Barszcz & Associates	Date Signed:	
Address: 9030 W. Sahara Ave #172	License: M-25802	
City/State/Zip: Las Vegas, NV 89117	Phone: 702.240.7240	



Commercial Electric Water Heater

COMMERCIAL HEAVY DUTY WATER HEATER WITH IMMERSION THERMOSTAT

Designed for use as a recovery heater having its own storage tank or booster for supplying sanitizing rinse water for dish washing.

POWER CIRCUIT FUSING

current draw exceeds 48 amps).

STANDARD VOLTAGES

phase also available.

connection to block.

MAGNETIC CONTACTORS

For complete warranty information,

consult written warranty or go to

americanwaterheater.com.

quick, easy access

protection

www.americanwaterheater.com or call (800) 456-9805 | Copyright © by American® Water Heaters. All Rights reserved. April 2016

TERMINAL BLOCK

FEATURES Meets the thermal efficiency and or standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IES 90.1. ADVANCED ELECTRONIC

CONTROL Plain English text and animated icons display detailed operational and diagnostic information. Fault or Alert messages three phase delta. Convertible from three-phase to single-phase (in field) and vice

appear if an operational issue occurs. Immersion temperature control adjustable through a range of 90°F to 190°F. ECONOMY MODE OPERATION Control system automatically lowers the Operating Set Point by a programmed value during user-defined time periods.

unoccupied or off - peak demand periods.

THREE YEAR LIMITED TANK
WARRANTY LINEAR SEQUENCING Banks of heating elements (3 elements per bank) are energized according to adjustable (1 to 20°F) differential set points for each bank. First bank on is the last

provides accurate water temperature **GOLDENROD ELEMENTS** All ITCE31 models ship standard with patented Goldenrod 24K gold plated elements. Goldenrod elements provide long life with superior scaling resistance.

GLASS-LINED TANK Three sizes; 50, 80 and 119 gallon capacity. Tank interior is coated with glass • Top outlet, side inlet and relief valve specially developed by American for water openings heater use. Foam insulation reduces costly

• Nipple and brass drain valve heat loss. ASME (optional) maximum CSA certified and ASME rated T&P relief working pressure is 160 psi.

For complete warranty information consult the written warranty of American Water Heaters found at:

bank off. Helps reduce current surge and • Immersion style thermostats

from short circuits, overloading or line surges. Meets National Electric Code requirements (fusing required when 208, 240 and 480V single-phase and Factory installed. Allows for easy service Heavy duty; UL rated 100,000 cycles. OTHER STANDARD FEATURES Simplified circuitry, color coded for ease Hinged control compartment door for Two anode rods for maximum corrosion

> **MODELS** ITCE31-50, 80, 119





Commercial Electric Water Heater

Standard	DT11/11	30°F	40°F	50°F	60°F	70°F	80°F	90°F	100°F	110°F	120°F	130°F	140°F
kW Input	BTU/Hour	17°C	22°C	28°C	33°C	39°C	45°C	50°C	56°C	61°C	67°C	72°C	78°C
6	20,478	82	62	49	41	35	31	27	25	22	21	19	18
	20,476	310	233	166	155	133	116	103	93	85	78	72	66
9	30,717	123	92	74	62	53	46	41	37	34	31	28	26
3	30,717	465	349	279	223	199	174	155	140	127	116	107	100
12	40,956	164	123	98	82	70	61	55	49	45	41	38	35
12	40,950	620	465	372	310	266	233	207	186	169	155	143	133
13.5	46,075	184	138	111	92	79	69	62	55	50	46	43	40
10.5	46,075	698	523	419	349	299	262	233	209	190	174	161	150
15	51,195	205	154	123	102	88	77	68	61	56	51	47	44
15		775	582	465	388	332	291	258	233	211	194	149	166
40	61,434	246	184	148	123	105	92	82	74	67	62	57	53
18	61,434	930	698	558	465	399	349	310	279	254	233	215	199
24	81,912	328	246	197	164	140	123	109	98	90	82	76	70
24	01,912	1241	930	744	620	532	465	414	372	338	310	286	266
27	00.454	369	276	221	185	158	138	123	111	101	92	85	79
21	92,151	1396	1047	938	609	509	523	465	410	391	340	322	299
20	100.000	410	307	246	205	176	154	137	123	112	102	95	88
30	102,390	1551	1163	930	775	665	582	517	465	423	388	358	332
36	100.000	492	369	295	246	211	184	164	148	134	123	113	105
30	122,868	1861	1396	1117	930	798	698	620	556	508	465	429	399
40.5	400,000	554	418	332	277	237	208	185	166	151	138	128	119
40.5	138,226	2094	1570	1256	1047	897	785	698	628	634	582	537	498
45	150 505	615	461	369	307	263	230	205	184	168	154	142	132
45	153,585	2326	1745	1398	1163	997	872	755	698	634	582	537	498
	404.000	738	554	443	359	316	277	246	221	20	185	170	158
54	184,302	2791	2094	1675	1396	1196	1047	930	837	761	696	644	598

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american

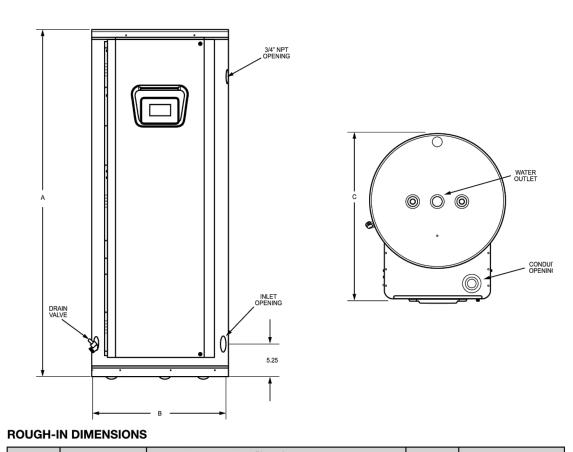
Commercial Electric Water Heater

OPTIONS:

ASME 160 psi (1103 kPa) tank construction.

• UL Listed conversion kits to adjust voltage and kW requirement in the field before and after installation. • Manifold kits for multiple tank installations. Two heaters -part # 9003429205, three heaters - part # 9003430205 and four heaters -





	Toul C	apacity					inlet/Outlet	Approx. Shipping Weig			
Model Number	lank C	арасну	1	4	E	3	()	(NPT)	Approx. Snip	pping weigr
	gal.	litre	Inches	cm	Inches	cm	Inches	cm	Inches	lbs	kG
ITC31-50	50	189	55-3/4	142	21-3/4	55.2	27	68.6	1-1/4	265	120
ITC31-80	80	302	60-1/4	153	25-1/2	64.8	31	78.7	1-1/4	280	127
ITC31-119	119	450	62-1/4	158.1	29-1/2	75	35	88.9	1-1/4	390	177
For ASMF constr	ruction add "A	A" to the front	of the model	number (exan	nnle: AITCE31	1-50-24)					

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Commercial Electric Water Heater

	Model Nur	nhers Tank Canaci	Number of	Element	Full Load Current in Amperes							
kW Input	Woder Null	Model Numbers Tank Capacity in Gallons					Single	Phase		Three Phase		
	50	80	119			208V	240V	277V	480V	208V	240V	480\
6	ITCE31-50-6	ITCE31-80-6	ITCE31-119-6	3	2,000	28.8	25	21.7	12.5	16.7	14.4	7.2
9	HOE31-30-9	11CE31-00-9	110E31-119-9	3	3,000	43.3	37.5	**32.5	18.8	25	21.7	10.8
12	ITCE31-50-12	ITCE31-80-12	ITCE31-119-12	3	4,000	57.7	50	43.3	25	33.3	28.9	14.4
13.5	ITCE31-50-13.5	ITCE31-80-13.5	ITCE31-119-13.5	3	4,500	64.9	56.3	**48.7	28.1	37.5	32.5	16.2
15	ITCE31-50-15	ITCE31-80-15	ITCE31-119-15	3	5,000	72.1	62.5	**54.2	31.3	41.6	36.1	18
18	ITCE31-50-18	ITCE31-80-18	ITCE31-119-18	3*	6,000	86.5	75	65	37.5	50	43.3	21.7
24	ITCE31-50-24	ITCE31-80-24	ITCE31-119-24	6	4,000	115.4	100	86.6	50	66.6	57.7	28.9
27	ITCE31-50-27	ITCE31-80-27	ITCE31-119-27	6	4,500	129.8	112.5	**97.5	56.3	74.9	65	32.5
30	ITCE31-50-30	ITCE31-80-30	ITCE31-119-30	6	5,000	144.2	125	**108.3	62.5	83.3	72.2	36.
36	ITCE31-50-36	ITCE31-80-36	ITCE31-119-36	6*	6,000	173.1	150	130	75	99.9	86.6	43.3
40.5	N/A	ITCE31-80-40.5	ITCE31-119-40.5	9	4,500	194.7	168.8	**146.2	84.4	112.4	97.4	48.7
45	N/A	ITCE31-80-45	ITCE31-119-45	9	5,000	216.3	187.5	**162.5	93.8	124.9	108.3	54.
54	N/A	ITCE31-80-54	ITCE31-119-54	9	6,000	N/A	225	194.9	112.5	149.9	129.9	65

** Elements available in incoloy only.

SUGGESTED SPECIFICATION

The heater(s) shall be Heavy-Duty Commercial Electric Model Number______as manufactured by American Water Heaters or equivalent. Heater(s) shall be rated at_____kW ____V ____phase, 60 cycle AC as listed by Underwriters' Laboratories. All models meet National Sanitation Foundation NSF-5 requirements. Water heater shall have LCD display with built-in diagnostic and troubleshooting information. Tank(s) shall be _____ (50, 80 or 119) gallon capacity with _____(150 [Std] or 160 [ASME]) psi working pressure and equipped with dual extruded high density anodes. All internal surfaces of the heater(s) exposed to water shall be glass-lined with an alkaline borosilicate composition that has been fused to steel by firing at a temperature range of 1400°F to 1600°F. Electric heating elements shall be 24K Goldenrod medium watt density screw-in type with Incoloy sheath and ceramic terminal block. Internal power circuit fusing shall be provided. Element operation shall be linear sequencing through individual magnetic contactors. Control circuit shall be factory fused and include an immersion thermistor temperature probe with built in ECO control. Control cabinet and jacket shall be of baked enamel finish and shall provide full size control and element compartment for complete service and maintenance performance through front hinged compartment door, and enclose tank with foam insulation. 1 1/4" inlet and outlet connection shall be provided. The heater tank shall have a three year limited warranty and controls and accessories shall have a one year limited warranty as outlined in the written warranty. Fully illustrated instruction manual to be included. For multiple installation, factory built manifold kits for_____ (2, 3 or 4) heater installation shall be provided. Meets or exceeds the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IES 90.1.

or technical information call (800) 456-9805. American Water Heaters reserves the right to make product changes or impro

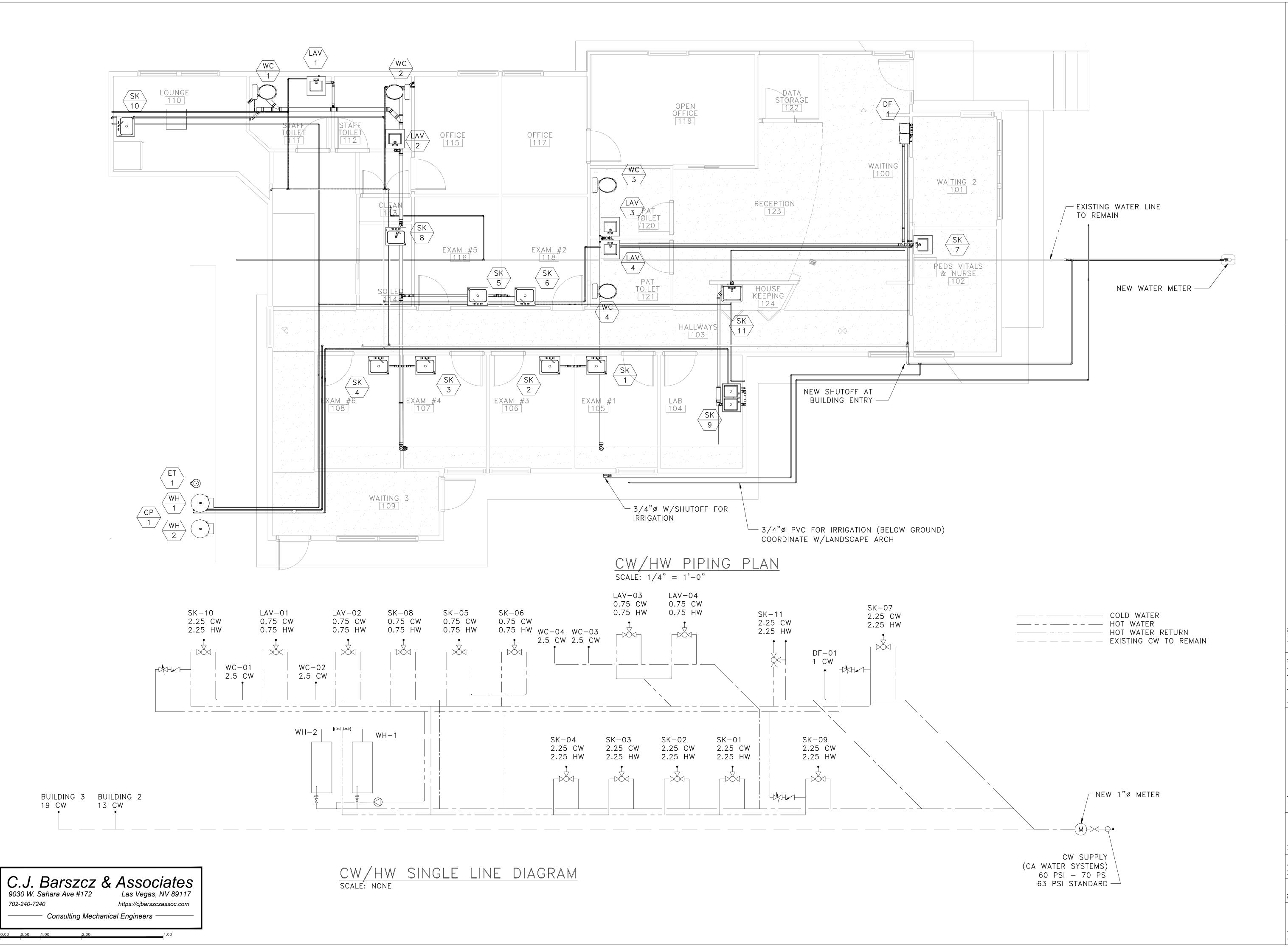
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Water Heater Specifications and

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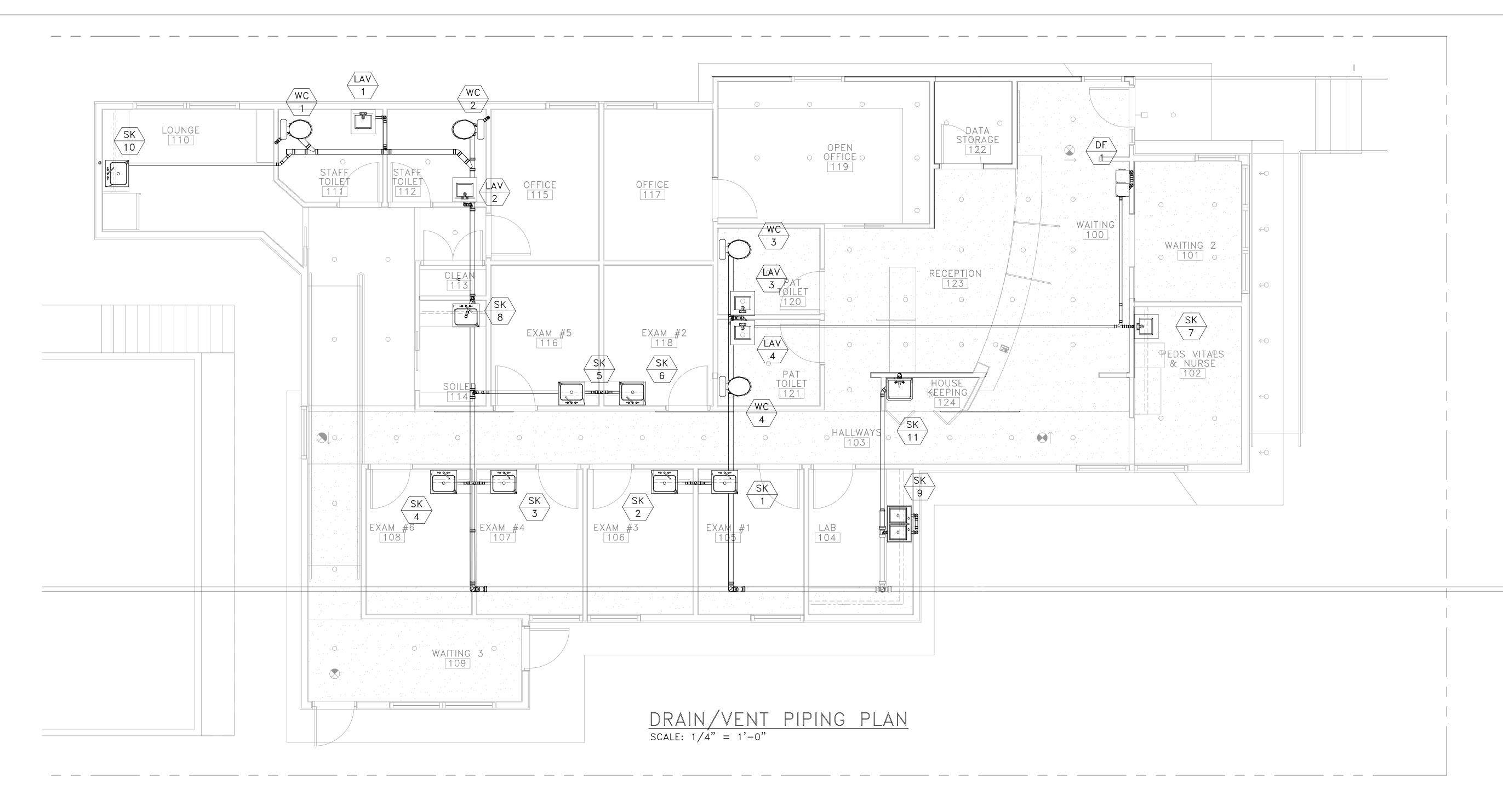
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LENNOX, CA 90304

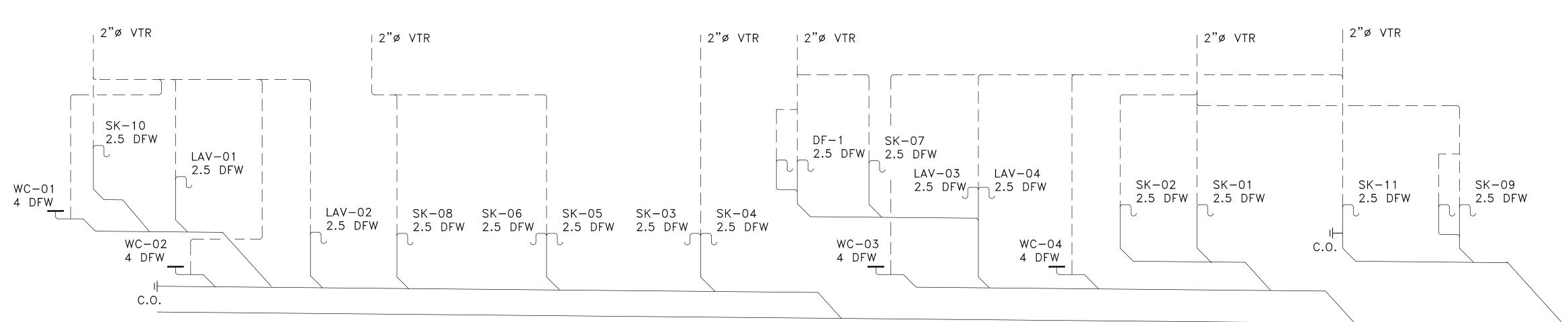
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CW/HW One—line Diagram & Schematic

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DRAIN/VENT SINGLE-LINE DIAGRAM SCALE: NONE



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Sanitary Drain/Vent One—Line Diagram & Schematic

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